

Introduction to Functions (ITF)

Readiness

Packet

This summer packet contains material learned during the Pre-Algebra curriculum. In order to be ready to take ITF, please make sure you have mastered this material. Complete the worksheets for those topics that you need to learn prior to coming back in September.

You will find the answer key to any worksheet on the following pages. If you find you cannot do a particular skill, look it up in the textbook!

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Adding/Subtracting Integers

Find each sum.

1) $(-12) + 7$

2) $(-10) + (-7)$

3) $(-6) + 12$

4) $8 + 7$

5) $3 + 4$

6) $(-45) + 9$

7) $(-1) + (-46)$

8) $(-30) + 10$

9) $(-34) + 50$

10) $38 + (-5)$

Find each difference.

11) $2 - (-2)$

12) $(-1) - 10$

13) $8 - 7$

14) $(-8) - (-6)$



$15) 11 - 4$

$16) 48 - (-31)$

$17) 18 - 41$

$18) (-38) - 30$

$19) (-1) - (-3)$

$20) (-1) - (-40)$

Evaluate each expression.

$21) (-10) - 47$

$22) (-29) - 29$

$23) 13 + (-29)$

$24) 38 + 22$

$25) (-32) - 44$

$26) (-12) + (-11)$

$27) 2 + 15 + 4$

$28) 16 + (-13) + 5$

$29) 2 - (-9) - 8$

$30) 10 + 3 - (-8)$

Adding/Subtracting Integers

Find each sum.

1) $(-12) + 7$

-5

2) $(-10) + (-7)$

-17

3) $(-6) + 12$

6

4) $8 + 7$

15

5) $3 + 4$

7

6) $(-45) + 9$

-36

7) $(-1) + (-46)$

-47

8) $(-30) + 10$

-20

9) $(-34) + 50$

16

10) $38 + (-5)$

33

Find each difference.

11) $2 - (-2)$

4

12) $(-1) - 10$

-11

13) $8 - 7$

1

14) $(-8) - (-6)$

-2

$15) 11 - 4$

7

$16) 48 - (-31)$

79

$17) 18 - 41$

-23

$18) (-38) - 30$

-68

$19) (-1) - (-3)$

2

$20) (-1) - (-40)$

39

Evaluate each expression.

$21) (-10) - 47$

-57

$22) (-29) - 29$

-58

$23) 13 + (-29)$

-16

$24) 38 + 22$

60

$25) (-32) - 44$

-76

$26) (-12) + (-11)$

-23

$27) 2 + 15 + 4$

21

$28) 16 + (-13) + 5$

8

$29) 2 - (-9) - 8$

3

$30) 10 + 3 - (-8)$

21

Create your own worksheets like this one with **Infinite Pre-Algebra**. Free trial available at [KutaSoftware.com](https://www.KutaSoftware.com)

Multiplying Integers

Find each product.

1) 6×-4

2) 4×2

3) 3×-4

4) -6×4

5) 5×-4

6) -3×4

7) -5×6

8) -2×-1

9) -8×-2

10) 11×12

11) -7×5

12) 9×-6

13) 10×5

14) 9×2

15) -12×7

16) 8×-12

17) $9 \times 10 \times 6$

18) $-6 \times -10 \times -8$

19) $7 \times 9 \times 7$

20) $6 \times 6 \times -2$

21) $-5 \times -4 \times -10$

22) $9 \times 9 \times -5$

23) $8 \times 3 \times 8$

24) $7 \times 5 \times -5$

Multiplying Integers

Find each product.

1) 6×-4

-24

2) 4×2

8

3) 3×-4

-12

4) -6×4

-24

5) 5×-4

-20

6) -3×4

-12

7) -5×6

-30

8) -2×-1

2

9) -8×-2

16

10) 11×12

132

11) -7×5

-35

12) 9×-6

-54

13) 10×5

50

14) 9×2

18

15) -12×7

-84

16) 8×-12

-96

17) $9 \times 10 \times 6$

540

18) $-6 \times -10 \times -8$

-480

19) $7 \times 9 \times 7$

441

20) $6 \times 6 \times -2$

-72

21) $-5 \times -4 \times -10$

-200

22) $9 \times 9 \times -5$

-405

23) $8 \times 3 \times 8$

192

24) $7 \times 5 \times -5$

-175

Dividing Integers

Find each quotient.

1) $35 \div -5$

2) $-8 \div 4$

3) $-24 \div 4$

4) $-8 \div -2$

5) $8 \div 4$

6) $-24 \div 8$

7) $-21 \div 7$

8) $6 \div -6$

9) $-132 \div -11$

10) $-60 \div -15$

11) $-52 \div -4$

12) $60 \div 12$

$$13) 6 \div -1$$

$$14) 75 \div 15$$

$$15) 65 \div -13$$

$$16) 12 \div 4$$

$$17) -168 \div -12$$

$$18) -8 \div 2$$

$$19) \frac{-105}{7}$$

$$20) \frac{-4}{-1}$$

$$21) \frac{-10}{-2}$$

$$22) \frac{-144}{12}$$

$$23) \frac{24}{-12}$$

$$24) \frac{60}{-15}$$

Dividing Integers

Find each quotient.

1) $35 \div -5$

-7

2) $-8 \div 4$

-2

3) $-24 \div 4$

-6

4) $-8 \div -2$

4

5) $8 \div 4$

2

6) $-24 \div 8$

-3

7) $-21 \div 7$

-3

8) $6 \div -6$

-1

9) $-132 \div -11$

12

10) $-60 \div -15$

4

11) $-52 \div -4$

13

12) $60 \div 12$

5

$13) 6 \div -1$

-6

$14) 75 \div 15$

5

$15) 65 \div -13$

-5

$16) 12 \div 4$

3

$17) -168 \div -12$

14

$18) -8 \div 2$

-4

$19) \frac{-105}{7}$

-15

$20) \frac{-4}{-1}$

4

$21) \frac{-10}{-2}$

5

$22) \frac{-144}{12}$

-12

$23) \frac{24}{-12}$

-2

$24) \frac{60}{-15}$

-4

Order of Operations

Evaluate each expression.

1) $(30 - 3) \div 3$

2) $(21 - 5) \div 8$

3) $1 + 7^2$

4) $5 \times 4 - 8$

5) $8 + 6 \times 9$

6) $3 + 17 \times 5$

7) $7 + 12 \times 11$

8) $15 + 40 \div 20$

9) $20 + 16 - 15$

10) $19 - 15 - 3$

11) $9 \times (3 + 3) \div 6$

12) $(9 + 18 - 3) \div 8$

$13) 9 + 6 \div (8 - 2)$

$14) 4(4 \div 2 + 4)$

$15) 6 + (5 + 8) \times 4$

$16) 6 \times 6 - (7 + 5)$

$17) (9 \times 2) \div (2 + 1)$

$18) 2 - (4 + 3 - 6)$

$19) 7 \times 7 - (8 - 2)$

$20) 9 - 7 - 6 \div 6$

$21) (4 - 1 + 8 \div 8) \times 5$

$22) (10 \times 2) \div (1 + 1)$

$23) 7 \times 9 - 7 - 3 \times 5$

$24) 8 - 1 - (18 - 2) \div 8$

Order of Operations

Evaluate each expression.

1) $(30 - 3) \div 3$

9

2) $(21 - 5) \div 8$

2

3) $1 + 7^2$

50

4) $5 \times 4 - 8$

12

5) $8 + 6 \times 9$

62

6) $3 + 17 \times 5$

88

7) $7 + 12 \times 11$

139

8) $15 + 40 \div 20$

17

9) $20 + 16 - 15$

21

10) $19 - 15 - 3$

1

11) $9 \times (3 + 3) \div 6$

9

12) $(9 + 18 - 3) \div 8$

3

$13) 9 + 6 \div (8 - 2)$

10

$14) 4(4 \div 2 + 4)$

24

$15) 6 + (5 + 8) \times 4$

58

$16) 6 \times 6 - (7 + 5)$

24

$17) (9 \times 2) \div (2 + 1)$

6

$18) 2 - (4 + 3 - 6)$

1

$19) 7 \times 7 - (8 - 2)$

43

$20) 9 - 7 - 6 \div 6$

1

$21) (4 - 1 + 8 \div 8) \times 5$

20

$22) (10 \times 2) \div (1 + 1)$

10

$23) 7 \times 9 - 7 - 3 \times 5$

41

$24) 8 - 1 - (18 - 2) \div 8$

5

Proportions

State if each pair of ratios forms a proportion.

1) $\frac{4}{2}$ and $\frac{20}{6}$

2) $\frac{3}{2}$ and $\frac{18}{8}$

3) $\frac{4}{3}$ and $\frac{16}{12}$

4) $\frac{4}{3}$ and $\frac{8}{6}$

5) $\frac{12}{24}$ and $\frac{3}{4}$

6) $\frac{6}{9}$ and $\frac{2}{3}$

Solve each proportion.

7) $\frac{10}{k} = \frac{8}{4}$

8) $\frac{m}{10} = \frac{10}{3}$

9) $\frac{2}{x} = \frac{7}{9}$

10) $\frac{3}{x} = \frac{7}{10}$

$$11) \frac{4}{9} = \frac{2}{x}$$

$$12) \frac{6}{a} = \frac{3}{8}$$

$$13) \frac{8n}{8} = \frac{8}{3}$$

$$14) \frac{7}{9} = \frac{a}{5}$$

$$15) \frac{p}{8} = \frac{13}{2}$$

$$16) \frac{3}{13} = \frac{v}{3}$$

$$17) \frac{10}{12} = \frac{2}{n}$$

$$18) \frac{11}{10} = \frac{r}{11}$$

$$19) \frac{x}{9} = \frac{7}{14}$$

$$20) \frac{a}{10} = \frac{11}{14}$$

$$21) \frac{v}{12} = \frac{10}{2}$$

$$22) \frac{6}{14} = \frac{5}{n}$$

Proportions

State if each pair of ratios forms a proportion.

1) $\frac{4}{2}$ and $\frac{20}{6}$

No

2) $\frac{3}{2}$ and $\frac{18}{8}$

No

3) $\frac{4}{3}$ and $\frac{16}{12}$

Yes

4) $\frac{4}{3}$ and $\frac{8}{6}$

Yes

5) $\frac{12}{24}$ and $\frac{3}{4}$

No

6) $\frac{6}{9}$ and $\frac{2}{3}$

Yes

Solve each proportion.

7) $\frac{10}{k} = \frac{8}{4}$

{5}

8) $\frac{m}{10} = \frac{10}{3}$

{33.33}

9) $\frac{2}{x} = \frac{7}{9}$

{2.57}

10) $\frac{3}{x} = \frac{7}{10}$

{4.28}

$$11) \frac{4}{9} = \frac{2}{x}$$

{4.5}

$$12) \frac{6}{a} = \frac{3}{8}$$

{16}

$$13) \frac{8n}{8} = \frac{8}{3}$$

{2.66}

$$14) \frac{7}{9} = \frac{a}{5}$$

{3.88}

$$15) \frac{p}{8} = \frac{13}{2}$$

{52}

$$16) \frac{3}{13} = \frac{v}{3}$$

{0.69}

$$17) \frac{10}{12} = \frac{2}{n}$$

{2.4}

$$18) \frac{11}{10} = \frac{r}{11}$$

{12.1}

$$19) \frac{x}{9} = \frac{7}{14}$$

{4.5}

$$20) \frac{a}{10} = \frac{11}{14}$$

{7.85}

$$21) \frac{v}{12} = \frac{10}{2}$$

{60}

$$22) \frac{6}{14} = \frac{5}{n}$$

{11.66}

Proportion Word Problems

Answer each question and round your answer to the nearest whole number.

- 1) If you can buy one can of pineapple chunks for \$2 then how many can you buy with \$10?
- 2) One jar of crushed ginger costs \$2. How many jars can you buy for \$4?
- 3) One cantaloupe costs \$2. How many cantaloupes can you buy for \$6?
- 4) One package of blueberries costs \$3. How many packages of blueberries can you buy for \$9?
- 5) Shawna reduced the size of a rectangle to a height of 2 in. What is the new width if it was originally 24 in wide and 12 in tall?
- 6) Ming was planning a trip to Western Samoa. Before going, she did some research and learned that the exchange rate is 6 Tala for \$2. How many Tala would she get if she exchanged \$6?
- 7) Jasmine bought 32 kiwi fruit for \$16. How many kiwi can Lisa buy if she has \$4?
- 8) If you can buy four bulbs of elephant garlic for \$8 then how many can you buy with \$32?
- 9) One bunch of seedless black grapes costs \$2. How many bunches can you buy for \$20?
- 10) The money used in Jordan is called the Dinar. The exchange rate is \$3 to 2 Dinars. Find how many dollars you would receive if you exchanged 22 Dinars.

- 11) Gabriella bought three cantaloupes for \$7. How many cantaloupes can Shayna buy if she has \$21?
- 12) Jenny was planning a trip to the United Arab Emirates. Before going, she did some research and learned that the exchange rate is 4 Dirhams for every \$1. How many Dirhams would she get if she exchanged \$5?
- 13) Castel bought four bunches of fennel for \$9. How many bunches of fennel can Mofor buy if he has \$18?
- 14) If you can buy one fruit basket for \$30 then how many can you buy with \$60?

Answer each question. Round your answer to the nearest tenth. Round dollar amounts to the nearest cent.

- 15) Asanji took a trip to Mexico. Upon leaving he decided to convert all of his Pesos back into dollars. How many dollars did he receive if he exchanged 42.7 Pesos at a rate of $\$5.30 = 11.1$ Pesos?
- 16) The currency in Argentina is the Peso. The exchange rate is approximately $\$3 = 1$ Peso. At this rate, how many Pesos would you get if you exchanged \$121.10?
- 17) Mary reduced the size of a painting to a width of 3.3 in. What is the new height if it was originally 32.5 in tall and 42.9 in wide?
- 18) Molly bought two heads of cabbage for \$1.80. How many heads of cabbage can Willie buy if he has \$28.80?

Proportion Word Problems

Answer each question and round your answer to the nearest whole number.

- 1) If you can buy one can of pineapple chunks for \$2 then how many can you buy with \$10?
5
- 2) One jar of crushed ginger costs \$2. How many jars can you buy for \$4?
2
- 3) One cantaloupe costs \$2. How many cantaloupes can you buy for \$6?
3
- 4) One package of blueberries costs \$3. How many packages of blueberries can you buy for \$9?
3
- 5) Shawna reduced the size of a rectangle to a height of 2 in. What is the new width if it was originally 24 in wide and 12 in tall?
4 in
- 6) Ming was planning a trip to Western Samoa. Before going, she did some research and learned that the exchange rate is 6 Tala for \$2. How many Tala would she get if she exchanged \$6?
18 Tala
- 7) Jasmine bought 32 kiwi fruit for \$16. How many kiwi can Lisa buy if she has \$4?
8
- 8) If you can buy four bulbs of elephant garlic for \$8 then how many can you buy with \$32?
16
- 9) One bunch of seedlees black grapes costs \$2. How many bunches can you buy for \$20?
10
- 10) The money used in Jordan is called the Dinar. The exchange rate is \$3 to 2 Dinars. Find how many dollars you would receive if you exchanged 22 Dinars.
\$33

11) Gabriella bought three cantaloupes for \$7. How many cantaloupes can Shayna buy if she has \$21?

9

12) Jenny was planning a trip to the United Arab Emirates. Before going, she did some research and learned that the exchange rate is 4 Dirhams for every \$1. How many Dirhams would she get if she exchanged \$5?

20 Dirhams

13) Castel bought four bunches of fennel for \$9. How many bunches of fennel can Mofor buy if he has \$18?

8

14) If you can buy one fruit basket for \$30 then how many can you buy with \$60?

2

Answer each question. Round your answer to the nearest tenth. Round dollar amounts to the nearest cent.

15) Asanji took a trip to Mexico. Upon leaving he decided to convert all of his Pesos back into dollars. How many dollars did he receive if he exchanged 42.7 Pesos at a rate of $\$5.30 = 11.1$ Pesos?

\$20.39

16) The currency in Argentina is the Peso. The exchange rate is approximately $\$3 = 1$ Peso. At this rate, how many Pesos would you get if you exchanged \$121.10?

40.4 Pesos

17) Mary reduced the size of a painting to a width of 3.3 in. What is the new height if it was originally 32.5 in tall and 42.9 in wide?

2.5 in

18) Molly bought two heads of cabbage for \$1.80. How many heads of cabbage can Willie buy if he has \$28.80?

32

Name: _____

Class: _____

Percent

Calculate the given percent of each value.

1. 11% of 3 = _____
2. 38% of 32 = _____
3. 16% of 420 = _____
4. 68% of 109 = _____
5. 41% of 98 = _____
6. 83% of 42 = _____
7. 46% of 93 = _____
8. 39% of 31 = _____
9. 21% of 20 = _____
10. 22% of 205 = _____
11. 24% of 87 = _____
12. 72% of 475 = _____
13. 71% of 9 = _____
14. 76% of 576 = _____
15. 10% of 880 = _____
16. 52% of 173 = _____
17. 72% of 66 = _____
18. 44% of 7 = _____
19. 38% of 21 = _____
20. 24% of 46 = _____
21. 61% of 88 = _____
22. 93% of 9 = _____
23. 65% of 70 = _____
24. 35% of 6 = _____
25. 79% of 7 = _____
26. 10% of 73 = _____
27. 85% of 40 = _____
28. 49% of 33 = _____
29. 37% of 27 = _____
30. 73% of 115 = _____
31. 11% of 47 = _____
32. 79% of 62 = _____
33. 59% of 5 = _____
34. 11% of 879 = _____
35. 38% of 661 = _____
36. 16% of 585 = _____
37. 68% of 350 = _____
38. 41% of 54 = _____
39. 83% of 93 = _____
40. 46% of 6 = _____
41. 39% of 236 = _____
42. 21% of 87 = _____
43. 22% of 25 = _____
44. 24% of 333 = _____
45. 72% of 9 = _____
46. 71% of 29 = _____
47. 76% of 4 = _____
48. 10% of 318 = _____
49. 52% of 76 = _____
50. 72% of 950 = _____
51. 44% of 390 = _____
52. 38% of 554 = _____
53. 24% of 861 = _____
54. 61% of 161 = _____

24

Name:

Class:

Percent

Calculate the given percent of each value.

1. 11% of 3 = 0.33
2. 38% of 32 = 12.16
3. 16% of 420 = 67.2
4. 68% of 109 = 74.12
5. 41% of 98 = 40.18
6. 83% of 42 = 34.86
7. 46% of 93 = 42.78
8. 39% of 31 = 12.09
9. 21% of 20 = 4.2
10. 22% of 205 = 45.1
11. 24% of 87 = 20.88
12. 72% of 475 = 342
13. 71% of 9 = 6.39
14. 76% of 576 = 437.76
15. 10% of 880 = 88
16. 52% of 173 = 89.96
17. 72% of 66 = 47.52
18. 44% of 7 = 3.08
19. 38% of 21 = 7.98
20. 24% of 46 = 11.04
21. 61% of 88 = 53.68
22. 93% of 9 = 8.37
23. 65% of 70 = 45.5
24. 35% of 6 = 2.1
25. 79% of 7 = 5.53
26. 10% of 73 = 7.3
27. 85% of 40 = 34
28. 49% of 33 = 16.17
29. 37% of 27 = 9.99
30. 73% of 115 = 83.95
31. 11% of 47 = 5.17
32. 79% of 62 = 48.98
33. 59% of 5 = 2.95
34. 11% of 879 = 96.69
35. 38% of 661 = 251.18
36. 16% of 585 = 93.6
37. 68% of 350 = 238
38. 41% of 54 = 22.14
39. 83% of 93 = 77.19
40. 46% of 6 = 2.76
41. 39% of 236 = 92.04
42. 21% of 87 = 18.27
43. 22% of 25 = 5.5
44. 24% of 333 = 79.92
45. 72% of 9 = 6.48
46. 71% of 29 = 20.59
47. 76% of 4 = 3.04
48. 10% of 318 = 31.8
49. 52% of 76 = 39.52
50. 72% of 950 = 684
51. 44% of 390 = 171.6
52. 38% of 554 = 210.52
53. 24% of 861 = 206.64
54. 61% of 161 = 98.21

Percent Word Problems

Solve each problem.

- 1) What percent of 126 is 22?
- 2) 81 is 56% of what?
- 3) 25.7 is what percent of 141?
- 4) 17% of what is 156?
- 5) 46 is what percent of 107?
- 6) 79.9 is 99% of what?
- 7) 62% of what is 89.3?
- 8) What percent of 137.4 is 96?
- 9) 30% of 117 is what?
- 10) 11 is what percent of 97?
- 11) 120% of 118 is what?
- 12) 25 is what percent of 37?
- 13) What is 270% of 60?
- 14) 73% of what is 156.4?
- 15) 87% of 41 is what?
- 16) 9 is what percent of 84?
- 17) What percent of 88.6 is 70?
- 18) What percent of 137 is 86?

Percent Word Problems

Solve each problem.

1) What percent of 126 is 22?

17.5%

2) 81 is 56% of what?

144.6

3) 25.7 is what percent of 141?

18.2%

4) 17% of what is 156?

917.6

5) 46 is what percent of 107?

43%

6) 79.9 is 99% of what?

80.7

7) 62% of what is 89.3?

144

8) What percent of 137.4 is 96?

69.9%

9) 30% of 117 is what?

35.1

10) 11 is what percent of 97?

11.3%

11) 120% of 118 is what?

141.6

12) 25 is what percent of 37?

67.6%

13) What is 270% of 60?

162

14) 73% of what is 156.4?

214.2

15) 87% of 41 is what?

35.7

16) 9 is what percent of 84?

10.7%

17) What percent of 88.6 is 70?

79%

18) What percent of 137 is 86?

62.8%

Simplifying Variable Expressions

Simplify each expression.

1) $-3p + 6p$

2) $b - 3 + 6 - 2b$

3) $7x - x$

4) $7p - 10p$

5) $-10v + 6v$

6) $-9r + 10r$

7) $9 + 5r - 9r$

8) $1 - 3v + 10$

9) $5n + 9n$

10) $4b + 6 - 4$

11) $35n - 1 + 46$

12) $-33v - 49v$

13) $30n + 8n$

14) $7x + 31x$

15) $10x + 36 - 38x - 47$

16) $-2(7 - n) + 4$

17) $-8(-5b + 7) + 5b$

18) $-4p - (1 - 6p)$

19) $4 - 5(-4n + 3)$

20) $-7(k - 8) + 2k$

21) $1 + 7(1 - 3b)$

22) $3 - 8(7 - 5n)$

Simplifying Variable Expressions

Simplify each expression.

1) $-3p + 6p$

$3p$

2) $b - 3 + 6 - 2b$

$-b + 3$

3) $7x - x$

$6x$

4) $7p - 10p$

$-3p$

5) $-10v + 6v$

$-4v$

6) $-9r + 10r$

r

7) $9 + 5r - 9r$

$9 - 4r$

8) $1 - 3v + 10$

$11 - 3v$

9) $5n + 9n$

$14n$

10) $4b + 6 - 4$

$4b + 2$

11) $35n - 1 + 46$

$35n + 45$

12) $-33v - 49v$

$-82v$

13) $30n + 8n$

$38n$

14) $7x + 31x$

$38x$

15) $10x + 36 - 38x - 47$

$-28x - 11$

16) $-2(7 - n) + 4$

$-10 + 2n$

17) $-8(-5b + 7) + 5b$

$45b - 56$

18) $-4p - (1 - 6p)$

$2p - 1$

19) $4 - 5(-4n + 3)$

$-11 + 20n$

20) $-7(k - 8) + 2k$

$-5k + 56$

21) $1 + 7(1 - 3b)$

$8 - 21b$

22) $3 - 8(7 - 5n)$

$-53 + 40n$

The Distributive Property

Simplify each expression.

1) $6(1 - 5m)$

2) $-2(1 - 5v)$

3) $3(4 + 3r)$

4) $3(6r + 8)$

5) $4(8n + 2)$

6) $-(-2 - n)$

7) $-6(7k + 11)$

8) $-3(7n + 1)$

9) $-6(1 + 11b)$

10) $-10(a - 5)$

11) $-3(1 + 2v)$

12) $-4(3x + 2)$

13) $(3 - 7k) \cdot -2$

14) $-20(8x + 20)$

15) $(7 + 19b) \cdot -15$

16) $(x + 1) \cdot 14$

The Distributive Property

Simplify each expression.

1) $6(1 - 5m)$
 $6 - 30m$

2) $-2(1 - 5v)$
 $-2 + 10v$

3) $3(4 + 3r)$
 $12 + 9r$

4) $3(6r + 8)$
 $18r + 24$

5) $4(8n + 2)$
 $32n + 8$

6) $-(-2 - n)$
 $2 + n$

7) $-6(7k + 11)$
 $-42k - 66$

8) $-3(7n + 1)$
 $-21n - 3$

9) $-6(1 + 11b)$
 $-6 - 66b$

10) $-10(a - 5)$
 $-10a + 50$

11) $-3(1 + 2v)$
 $-3 - 6v$

12) $-4(3x + 2)$
 $-12x - 8$

13) $(3 - 7k) \cdot -2$
 $-6 + 14k$

14) $-20(8x + 20)$
 $-160x - 400$

15) $(7 + 19b) \cdot -15$
 $-105 - 285b$

16) $(x + 1) \cdot 14$
 $14x + 14$

Evaluating Variable Expressions

Evaluate each using the values given.

1) $n^2 - m$; use $m = 7$, and $n = 8$

2) $8(x - y)$; use $x = 5$, and $y = 2$

3) $yx \div 2$; use $x = 7$, and $y = 2$

4) $m - n \div 4$; use $m = 5$, and $n = 8$

5) $x - y + 6$; use $x = 6$, and $y = 1$

6) $z + x^3$; use $x = 1$, and $z = 19$

7) $y + yx$; use $x = 15$, and $y = 8$

8) $q \div 6 + p$; use $p = 10$, and $q = 12$

9) $x + 8 - y$; use $x = 20$, and $y = 17$

10) $15 - (m + p)$; use $m = 3$, and $p = 10$

11) $10 - x + y \div 2$; use $x = 5$, and $y = 2$

12) $p - 2 + qp$; use $p = 7$, and $q = 4$

13) $zy + 4y$; use $y = 5$, and $z = 2$

14) $b(a + b) + a$; use $a = 9$, and $b = 4$

15) $p^2 \div 4 - m$; use $m = 3$, and $p = 4$

16) $x(y \div 3)^2$; use $x = 4$, and $y = 9$

17) $4 + m + n - m$; use $m = 4$, and $n = 9$

18) $qp + q - p$; use $p = 7$, and $q = 3$

19) $mn \div 6 + 10$; use $m = 7$, and $n = 6$

20) $h + j(j - h)$; use $h = 2$, and $j = 6$

21) $(b - 1)^2 + a^2$; use $a = 6$, and $b = 1$

22) $y(x - (9 - 4y))$; use $x = 4$, and $y = 2$

23) $x - (x - (x - y^3))$; use $x = 9$, and $y = 1$

24) $j(h - 9)^3 + 2$; use $h = 9$, and $j = 8$

Evaluating Variable Expressions

Evaluate each using the values given.

1) $n^2 - m$; use $m = 7$, and $n = 8$

57

2) $8(x - y)$; use $x = 5$, and $y = 2$

24

3) $yx \div 2$; use $x = 7$, and $y = 2$

7

4) $m - n \div 4$; use $m = 5$, and $n = 8$

3

5) $x - y + 6$; use $x = 6$, and $y = 1$

11

6) $z + x^3$; use $x = 1$, and $z = 19$

20

7) $y + yx$; use $x = 15$, and $y = 8$

128

8) $q \div 6 + p$; use $p = 10$, and $q = 12$

12

9) $x + 8 - y$; use $x = 20$, and $y = 17$

11

10) $15 - (m + p)$; use $m = 3$, and $p = 10$

2

11) $10 - x + y \div 2$; use $x = 5$, and $y = 2$

6

12) $p - 2 + qp$; use $p = 7$, and $q = 4$

33

13) $zy + 4y$; use $y = 5$, and $z = 2$

30

14) $b(a + b) + a$; use $a = 9$, and $b = 4$

61

15) $p^2 \div 4 - m$; use $m = 3$, and $p = 4$

1

16) $x(y \div 3)^2$; use $x = 4$, and $y = 9$

36

17) $4 + m + n - m$; use $m = 4$, and $n = 9$

13

18) $qp + q - p$; use $p = 7$, and $q = 3$

17

19) $mn \div 6 + 10$; use $m = 7$, and $n = 6$

17

20) $h + j(j - h)$; use $h = 2$, and $j = 6$

26

21) $(b - 1)^2 + a^2$; use $a = 6$, and $b = 1$

36

22) $y(x - (9 - 4y))$; use $x = 4$, and $y = 2$

6

23) $x - (x - (x - y^3))$; use $x = 9$, and $y = 1$

8

24) $j(h - 9)^3 + 2$; use $h = 9$, and $j = 8$

2

Name: _____

Class: _____

ALGEBRA

Solve for the variable.

1. $y - 4 = 0$ _____ 2. $5 + y = 12$ _____ 3. $2 + y = 11$ _____ 4. $y - 9 = -8$ _____

5. $6 - y = 5$ _____ 6. $9 - y = 6$ _____ 7. $6 + y = 11$ _____ 8. $9 + y = 10$ _____

9. $y + 7 = 9$ _____ 10. $7 - y = 5$ _____

Solve for the variable.

11. $y - 8 = 1$ _____ 12. $y + 4 = 6$ _____ 13. $y - 6 = -3$ _____ 14. $y + 3 = 7$ _____

15. $3 + y = 4$ _____ 16. $8 - y = 7$ _____ 17. $8 + y = 12$ _____ 18. $y - 8 = -1$ _____

19. $3 - y = -4$ _____ 20. $9 + y = 10$ _____

Solve for the variable.

21. $y - 1 = 5$ _____ 22. $y + 1 = 3$ _____ 23. $1 + y = 4$ _____ 24. $y - 2 = 5$ _____

25. $y + 7 = 9$ _____ 26. $y + 2 = 10$ _____ 27. $y + 4 = 8$ _____ 28. $y - 3 = 6$ _____

29. $y + 4 = 12$ _____ 30. $3 + y = 9$ _____

Solve for the variable.

31. $y - 2 = 2$ _____ 32. $y - 6 = -4$ _____ 33. $8 - y = -1$ _____ 34. $9 + y = 10$ _____

35. $1 - y = -2$ _____ 36. $y - 2 = 5$ _____ 37. $8 - y = 4$ _____ 38. $y - 6 = -5$ _____

39. $y - 9 = -6$ _____ 40. $6 + y = 8$ _____

Solve for the variable.

41. $5 - y = -2$ _____ 42. $y - 1 = 1$ _____ 43. $5 + y = 8$ _____ 44. $6 - y = -2$ _____

45. $8 + y = 12$ _____ 46. $y - 6 = -1$ _____ 47. $4 - y = -5$ _____ 48. $6 + y = 10$ _____

49. $1 - y = -6$ _____ 50. $3 - y = -4$ _____

Name: _____

Class: _____

ALGEBRA

Solve for the variable.

1. $y - 4 = 0$ $y = 4$ 2. $5 + y = 12$ $y = 7$ 3. $2 + y = 11$ $y = 9$ 4. $y - 9 = -8$ $y = 1$

5. $6 - y = 5$ $y = 1$ 6. $9 - y = 6$ $y = 3$ 7. $6 + y = 11$ $y = 5$ 8. $9 + y = 10$ $y = 1$

9. $y + 7 = 9$ $y = 2$ 10. $7 - y = 5$ $y = 2$

Solve for the variable.

11. $y - 8 = 1$ $y = 9$ 12. $y + 4 = 6$ $y = 2$ 13. $y - 6 = -3$ $y = 3$ 14. $y + 3 = 7$ $y = 4$

15. $3 + y = 4$ $y = 1$ 16. $8 - y = 7$ $y = 1$ 17. $8 + y = 12$ $y = 4$ 18. $y - 8 = -1$ $y = 7$

19. $3 - y = -4$ $y = 7$ 20. $9 + y = 10$ $y = 1$

Solve for the variable.

21. $y - 1 = 5$ $y = 6$ 22. $y + 1 = 3$ $y = 2$ 23. $1 + y = 4$ $y = 3$ 24. $y - 2 = 5$ $y = 7$

25. $y + 7 = 9$ $y = 2$ 26. $y + 2 = 10$ $y = 8$ 27. $y + 4 = 8$ $y = 4$ 28. $y - 3 = 6$ $y = 9$

29. $y + 4 = 12$ $y = 8$ 30. $3 + y = 9$ $y = 6$

Solve for the variable.

31. $y - 2 = 2$ $y = 4$ 32. $y - 6 = -4$ $y = 2$ 33. $8 - y = -1$ $y = 9$ 34. $9 + y = 10$ $y = 1$

35. $1 - y = -2$ $y = 3$ 36. $y - 2 = 5$ $y = 7$ 37. $8 - y = 4$ $y = 4$ 38. $y - 6 = -5$ $y = 1$

39. $y - 9 = -6$ $y = 3$ 40. $6 + y = 8$ $y = 2$

Solve for the variable.

41. $5 - y = -2$ $y = 7$ 42. $y - 1 = 1$ $y = 2$ 43. $5 + y = 8$ $y = 3$ 44. $6 - y = -2$ $y = 8$

45. $8 + y = 12$ $y = 4$ 46. $y - 6 = -1$ $y = 5$ 47. $4 - y = -5$ $y = 9$ 48. $6 + y = 10$ $y = 4$

49. $1 - y = -6$ $y = 7$ 50. $3 - y = -4$ $y = 7$

Name: _____

Period: _____ Date: _____

Learning to Solve 2 Step Equations

Solve for the variable (hint problems 1 - 8 will have the same answer for a, b, and c)

1a. $x + 8 = 15$

1b. $2x = 14$

1c. $2x + 8 = 22$

2a. $k - 3 = 9$

2b. $4k = 48$

2c. $4k - 3 = 45$

3a. $d - 6 = -10$

3b. $7d = -28$

3c. $7d - 6 = -34$

4a. $m - 14 = -17$

4b. $-8m = 24$

4c. $-8m - 14 = 10$

5a. $w - 23 = 59$

5b. $-3w = -246$

5c. $-3w - 23 = -269$

6a. $x - 57 = 15$

6b. $\frac{x}{8} = 9$

6c. $\frac{x}{8} - 57 = -48$

7a. $x - 31 = -7$

7b. $\frac{x}{-6} = -4$

7c. $\frac{x}{-6} - 31 = -35$

8a. $x + 51 = -9$

8b. $\frac{x}{-5} = 12$

8c. $\frac{x}{-5} + 51 = 63$

9a. $x + 6 = -8$

9b. $8x = 56$

9c. $8x + 6 = 22$

10a. $x - 12 = 11$

10b. $-3x = -21$

10c. $-3x - 12 = -39$

11a. $x - 14 = -9$

11b. $-6x = 42$

11c. $-6x - 14 = 10$

12a. $x + 32 = 18$

12b. $9x = -99$

12c. $9x + 32 = -31$

13a. $x - 52 = 38$

13b. $-12x = 48$

13c. $-12x - 52 = -124$

14a. $x + 15 = 36$

14b. $\frac{x}{6} = 7$

14c. $\frac{x}{6} + 15 = 19$

15a. $x - 21 = -8$

15b. $\frac{x}{-3} = -18$

15c. $\frac{x}{-3} - 21 = -30$

16a. $x - 16 = -57$

16b. $\frac{x}{-5} = 6$

16c. $\frac{x}{-5} - 16 = -5$

17a. $x + 17 = 8$

17b. $\frac{x}{-15} = -4$

17c. $\frac{x}{-15} + 17 = 9$

Name: _____

Period: _____ Date: _____

Learning to Solve 2 Step Equations Answers**Solve for the variable** (hint problems 1 - 8 will have the same answer for a, b, and c)

1a. $x + 8 = 15$

$x = 7$

1b. $2x = 14$

$x = 7$

1c. $2x + 8 = 22$

$x = 7$

2a. $k - 3 = 9$

$k = 12$

2b. $4k = 48$

$k = 12$

2c. $4k - 3 = 45$

$k = 12$

3a. $d - 6 = -10$

$d = -4$

3b. $7d = -28$

$d = -4$

3c. $7d - 6 = -34$

$d = -4$

4a. $m - 14 = -17$

$m = -3$

4b. $-8m = 24$

$m = -3$

4c. $-8m - 14 = 10$

$m = -3$

5a. $w - 23 = 59$

$w = 82$

5b. $-3w = -246$

$w = 82$

5c. $-3w - 23 = -269$

$w = 82$

6a. $x - 57 = 15$

$x = 72$

6b. $\frac{x}{8} = 9$

$x = 72$

6c. $\frac{x}{8} - 57 = -48$

$x = 72$



7a. $x - 31 = -7$

$x = 24$

7b. $\frac{x}{-6} = -4$

$x = 24$

7c. $\frac{x}{-6} - 31 = -35$

$x = 24$

8a. $x + 51 = -9$

$x = -60$

8b. $\frac{x}{-5} = 12$

$x = -60$

8c. $\frac{x}{-5} + 51 = 63$

$x = -60$

9a. $x + 6 = -8$

$x = -14$

9b. $8x = 56$

$x = 7$

9c. $8x + 6 = 22$

$x = 2$

10a. $x - 12 = 11$

$x = 23$

10b. $-3x = -21$

$x = 7$

10c. $-3x - 12 = -39$

$x = 9$

11a. $x - 14 = -9$

$x = 5$

11b. $-6x = 42$

$x = -7$

11c. $-6x - 14 = 10$

$x = -4$

12a. $x + 32 = 18$

$x = -14$

12b. $9x = -99$

$x = -11$

12c. $9x + 32 = -31$

$x = -7$

13a. $x - 52 = 38$

$x = 90$

13b. $-12x = 48$

$x = -4$

13c. $-12x - 52 = -124$

$x = 6$





14a. $x + 15 = 36$

$x = 7$

14b. $\frac{x}{6} = 7$

$x = 7$

14c. $\frac{x}{6} + 15 = 19$

$x = 7$

15a. $x - 21 = -8$

$x = 13$

15b. $\frac{x}{-3} = -18$

$x = 54$

15c. $\frac{x}{-3} - 21 = -30$

$x = 27$

16a. $x - 16 = -57$

$x = -41$

16b. $\frac{x}{-5} = 6$

$x = -30$

16c. $\frac{x}{-5} - 16 = -5$

$x = -55$

17a. $x + 17 = 8$

$x = -9$

17b. $\frac{x}{-15} = -4$

$x = 60$

17c. $\frac{x}{-15} + 17 = 9$

$x = 120$



Name: _____

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Learning to Solve 2 Step Equations - Hard

Solve for the variable (answers in column a and c should be equal)

1a. $x + 3 = 20$

1b. $\frac{y}{5} = 4$

1c. $\frac{(x+3)}{5} = 4$

2a. $x - 8 = 15$

2b. $\frac{y}{3} = 5$

2c. $\frac{(x-8)}{3} = 5$

3a. $x + 11 = -24$

3b. $\frac{y}{-8} = 3$

3c. $\frac{(x+11)}{-8} = 3$

4a. $x - 9 = -30$

4b. $\frac{y}{6} = -5$

4c. $\frac{(x-9)}{6} = -5$

5a. $x + 7 = 18$

5b. $\frac{y}{-6} = -3$

5c. $\frac{(x+7)}{-6} = -3$

6a. $x - 12 = 36$

6b. $\frac{y}{-9} = -4$

6c. $\frac{(x-12)}{-9} = -4$

7a. $x - 16 = -42$

7b. $\frac{y}{7} = -6$

7c. $\frac{(x-16)}{7} = -6$

8a. $x + 23 = -27$

8b. $\frac{y}{-9} = 3$

8c. $\frac{x+23}{-9} = 3$

9a. $x - 26 = -100$

9b. $\frac{y}{20} = -5$

9c. $\frac{x-26}{20} = -5$

10a. $x + 34 = -56$

10b. $\frac{y}{-7} = 8$

10c. $\frac{x+34}{-7} = 8$

11a. $x + 4 = 10$

11b. $2y = 20$

11c. $2(x + 4) = 20$

12a. $x - 5 = 4$

12b. $3y = 12$

12c. $3(x - 5) = 12$

13a. $x + 8 = 2$

13b. $-9y = -18$

13c. $-9(x + 8) = -18$

14a. $x + 12 = -8$

14b. $6y = -48$

14c. $6(x + 12) = -48$

15a. $x - 22 = -9$

15b. $-7y = 63$

15c. $-7(x - 22) = 63$

16a. $x - 11 = -4$

16b. $-4y = 16$

16c. $-4(x - 11) = 16$

17a. $x - 17 = -4$

17b. $15y = -60$

17c. $15(x - 17) = -60$

18a. $x + 13 = -4$

18b. $12y = -48$

18c. $12(x + 13) = -48$

19a. $x - 6 = 6$

19b. $-9y = -54$

19c. $-9(x - 6) = -54$

20a. $x - 24 = -13$

20b. $-10y = 130$

20c. $-10(x - 24) = 130$

Name: _____

Period: _____ Date: _____

Learning to Solve 2 Step Equations - Hard Answers**Solve for the variable (answers in column a and c should be equal)**

1a. $x + 3 = 20$

$x = 17$

1b. $\frac{y}{5} = 4$

$y = 20$

1c. $\frac{(x+3)}{5} = 4$

$x = 17$

2a. $x - 8 = 15$

$x = 23$

2b. $\frac{y}{3} = 5$

$y = 15$

2c. $\frac{(x-8)}{3} = 5$

$x = 23$

3a. $x + 11 = -24$

$x = -35$

3b. $\frac{y}{-8} = 3$

$y = -24$

3c. $\frac{(x+11)}{-8} = 3$

$x = -35$

4a. $x - 9 = -30$

$x = -21$

4b. $\frac{y}{6} = -5$

$y = -30$

4c. $\frac{(x-9)}{6} = -5$

$x = -21$

5a. $x + 7 = 18$

$x = 11$

5b. $\frac{y}{-6} = -3$

$y = 18$

5c. $\frac{(x+7)}{-6} = -3$

$x = 11$

6a. $x - 12 = 36$

$x = 48$

6b. $\frac{y}{-9} = -4$

$y = 36$

6c. $\frac{(x-12)}{-9} = -4$

$x = 48$



7a. $x - 16 = -42$

$$x = -26$$

7b. $\frac{y}{7} = -6$

$$y = -42$$

7c. $\frac{(x-16)}{7} = -6$

$$x = -26$$

8a. $x + 23 = -27$

$$x = -50$$

8b. $\frac{y}{-9} = 3$

$$y = -27$$

8c. $\frac{x+23}{-9} = 3$

$$x = -50$$

9a. $x - 26 = -100$

$$x = -74$$

9b. $\frac{y}{20} = -5$

$$y = -100$$

9c. $\frac{x-26}{20} = -5$

$$x = -74$$

10a. $x + 34 = -56$

$$x = -90$$

10b. $\frac{y}{-7} = 8$

$$y = -56$$

10c. $\frac{x+34}{-7} = 8$

$$x = -90$$

11a. $x + 4 = 10$

$$x = 6$$

11b. $2y = 20$

$$y = 10$$

11c. $2(x + 4) = 20$

$$x = 6$$

12a. $x - 5 = 4$

$$x = 9$$

12b. $3y = 12$

$$y = 4$$

12c. $3(x - 5) = 12$

$$x = 9$$

13a. $x + 8 = 2$

$$x = -6$$

13b. $-9y = -18$

$$y = 2$$

13c. $-9(x + 8) = -18$

$$x = -6$$

14a. $x + 12 = -8$

$$x = -20$$

14b. $6y = -48$

$$y = -8$$

14c. $6(x + 12) = -48$

$$x = -20$$





15a. $x - 22 = -9$

$x = 13$

15b. $-7y = 63$

$y = -9$

15c. $-7(x - 22) = 63$

$x = 13$

16a. $x - 11 = -4$

$x = 7$

16b. $-4y = 16$

$y = -4$

16c. $-4(x - 11) = 16$

$x = 7$

17a. $x - 17 = -4$

$x = 13$

17b. $15y = -60$

$y = -4$

17c. $15(x - 17) = -60$

$x = 13$

18a. $x + 13 = -4$

$x = -17$

18b. $12y = -48$

$y = -4$

18c. $12(x + 13) = -48$

$x = -17$

19a. $x - 6 = 6$

$x = 12$

19b. $-9y = -54$

$y = 6$

19c. $-9(x - 6) = -54$

$x = 12$

20a. $x - 24 = -13$

$x = 11$

20b. $-10y = 130$

$x = -13$

20c. $-10(x - 24) = 130$

$x = 11$



Name: _____

Class: _____

ALGEBRA

Solve for the variable.

1. $1y + 8 = 17$ _____
2. $59 = 8y + 3$ _____
3. $54 = 9 + 9y$ _____
4. $2 + 8y = 34$ _____
5. $61 = 5 + 7y$ _____
6. $5y + 7 = 47$ _____
7. $9 = 8 + 1y$ _____
8. $7 = 3y + 1$ _____
9. $2y + 1 = 7$ _____
10. $4 + 4y = 16$ _____
11. $2y + 9 = 17$ _____
12. $4y + 7 = 15$ _____
13. $13 = 2y + 3$ _____
14. $7y + 4 = 60$ _____
15. $1 + 2y = 17$ _____
16. $35 = 8 + 9y$ _____
17. $1y + 8 = 16$ _____
18. $9 = 2y + 5$ _____
19. $46 = 6 + 8y$ _____
20. $18 = 4 + 7y$ _____
21. $14 = 4 + 2y$ _____
22. $7y + 2 = 9$ _____
23. $2y + 6 = 24$ _____
24. $9y + 7 = 16$ _____
25. $4 + 2y = 22$ _____
26. $8y + 5 = 37$ _____
27. $16 = 9 + 1y$ _____
28. $1 + 3y = 4$ _____
29. $54 = 7y + 5$ _____
30. $28 = 6y + 4$ _____
31. $7 + 5y = 22$ _____
32. $33 = 9 + 3y$ _____
33. $56 = 7 + 7y$ _____
34. $24 = 6 + 6y$ _____
35. $8y + 5 = 13$ _____
36. $6 + 4y = 22$ _____
37. $4y + 2 = 10$ _____
38. $2 + 1y = 10$ _____
39. $27 = 7 + 4y$ _____
40. $16 = 1y + 7$ _____
41. $3 + 6y = 21$ _____
42. $41 = 5 + 4y$ _____
43. $37 = 7 + 5y$ _____
44. $8 + 3y = 20$ _____
45. $8y + 4 = 60$ _____
46. $6y + 3 = 51$ _____
47. $19 = 3 + 4y$ _____
48. $64 = 1 + 7y$ _____
49. $52 = 8y + 4$ _____
50. $9 + 3y = 12$ _____
51. $7y + 7 = 35$ _____
52. $36 = 5y + 1$ _____
53. $3y + 3 = 21$ _____
54. $8 + 1y = 15$ _____
55. $37 = 2 + 7y$ _____
56. $4 + 3y = 7$ _____
57. $33 = 8 + 5y$ _____
58. $7y + 1 = 43$ _____
59. $8y + 3 = 75$ _____
60. $23 = 2 + 7y$ _____
61. $9y + 2 = 83$ _____
62. $8 + 4y = 16$ _____
63. $3y + 6 = 27$ _____
64. $18 = 1y + 9$ _____
65. $56 = 8 + 8y$ _____
66. $23 = 2 + 3y$ _____
67. $59 = 5 + 9y$ _____
68. $14 = 6 + 4y$ _____
69. $8y + 1 = 41$ _____
70. $1y + 5 = 10$ _____
71. $1 + 6y = 25$ _____
72. $8y + 2 = 50$ _____



Name: _____

Class: _____

ALGEBRA

Solve for the variable.

1. $1y + 8 = 17$ $y = 9$
2. $59 = 8y + 3$ $y = 7$
3. $54 = 9 + 9y$ $y = 5$
4. $2 + 8y = 34$ $y = 4$
5. $61 = 5 + 7y$ $y = 8$
6. $5y + 7 = 47$ $y = 8$
7. $9 = 8 + 1y$ $y = 1$
8. $7 = 3y + 1$ $y = 2$
9. $2y + 1 = 7$ $y = 3$
10. $4 + 4y = 16$ $y = 3$
11. $2y + 9 = 17$ $y = 4$
12. $4y + 7 = 15$ $y = 2$
13. $13 = 2y + 3$ $y = 5$
14. $7y + 4 = 60$ $y = 8$
15. $1 + 2y = 17$ $y = 8$
16. $35 = 8 + 9y$ $y = 3$
17. $1y + 8 = 16$ $y = 8$
18. $9 = 2y + 5$ $y = 2$
19. $46 = 6 + 8y$ $y = 5$
20. $18 = 4 + 7y$ $y = 2$
21. $14 = 4 + 2y$ $y = 5$
22. $7y + 2 = 9$ $y = 1$
23. $2y + 6 = 24$ $y = 9$
24. $9y + 7 = 16$ $y = 1$
25. $4 + 2y = 22$ $y = 9$
26. $8y + 5 = 37$ $y = 4$
27. $16 = 9 + 1y$ $y = 7$
28. $1 + 3y = 4$ $y = 1$
29. $54 = 7y + 5$ $y = 7$
30. $28 = 6y + 4$ $y = 4$
31. $7 + 5y = 22$ $y = 3$
32. $33 = 9 + 3y$ $y = 8$
33. $56 = 7 + 7y$ $y = 7$
34. $24 = 6 + 6y$ $y = 3$
35. $8y + 5 = 13$ $y = 1$
36. $6 + 4y = 22$ $y = 4$
37. $4y + 2 = 10$ $y = 2$
38. $2 + 1y = 10$ $y = 8$
39. $27 = 7 + 4y$ $y = 5$
40. $16 = 1y + 7$ $y = 9$
41. $3 + 6y = 21$ $y = 3$
42. $41 = 5 + 4y$ $y = 9$
43. $37 = 7 + 5y$ $y = 6$
44. $8 + 3y = 20$ $y = 4$
45. $8y + 4 = 60$ $y = 7$
46. $6y + 3 = 51$ $y = 8$
47. $19 = 3 + 4y$ $y = 4$
48. $64 = 1 + 7y$ $y = 9$
49. $52 = 8y + 4$ $y = 6$
50. $9 + 3y = 12$ $y = 1$
51. $7y + 7 = 35$ $y = 4$
52. $36 = 5y + 1$ $y = 7$
53. $3y + 3 = 21$ $y = 6$
54. $8 + 1y = 15$ $y = 7$
55. $37 = 2 + 7y$ $y = 5$
56. $4 + 3y = 7$ $y = 1$
57. $33 = 8 + 5y$ $y = 5$
58. $7y + 1 = 43$ $y = 6$
59. $8y + 3 = 75$ $y = 9$
60. $23 = 2 + 7y$ $y = 3$
61. $9y + 2 = 83$ $y = 9$
62. $8 + 4y = 16$ $y = 2$
63. $3y + 6 = 27$ $y = 7$
64. $18 = 1y + 9$ $y = 9$
65. $56 = 8 + 8y$ $y = 6$
66. $23 = 2 + 3y$ $y = 7$
67. $59 = 5 + 9y$ $y = 6$
68. $14 = 6 + 4y$ $y = 2$
69. $8y + 1 = 41$ $y = 5$
70. $1y + 5 = 10$ $y = 5$
71. $1 + 6y = 25$ $y = 4$
72. $8y + 2 = 50$ $y = 6$

Name: _____

Class: _____

ALGEBRA

Solve for the variable.

1. $33 - 5y = 8$ _____ 2. $3 = 11 - 8y$ _____ 3. $7y - 7 = 28$ _____ 4. $9y - 7 = 56$ _____

5. $8y - 7 = 25$ _____ 6. $4y - 9 = 23$ _____ 7. $3y - 2 = 19$ _____ 8. $2 = 9 - 1y$ _____

9. $3 = 27 - 8y$ _____ 10. $9 = 15 - 3y$ _____ 11. $9 = 5y - 6$ _____ 12. $4 = 6y - 8$ _____

13. $4 = 29 - 5y$ _____ 14. $22 - 2y = 4$ _____ 15. $9 = 16 - 7y$ _____ 16. $41 - 7y = 6$ _____

17. $2 = 3y - 7$ _____ 18. $62 - 7y = 6$ _____ 19. $13 - 1y = 5$ _____ 20. $48 - 8y = 8$ _____

21. $3y - 7 = 2$ _____ 22. $17 = 3y - 4$ _____ 23. $2y - 4 = 2$ _____ 24. $3y - 8 = 1$ _____

25. $6y - 5 = 37$ _____ 26. $4 = 76 - 9y$ _____ 27. $5 = 25 - 4y$ _____ 28. $35 - 3y = 8$ _____

29. $13 - 6y = 1$ _____ 30. $9y - 8 = 28$ _____ 31. $29 = 6y - 7$ _____ 32. $8y - 5 = 43$ _____

33. $6 = 24 - 9y$ _____ 34. $9 - 1y = 0$ _____ 35. $21 = 8y - 3$ _____ 36. $8y - 4 = 60$ _____

37. $18 = 5y - 2$ _____ 38. $17 = 2y - 1$ _____ 39. $1 = 9 - 4y$ _____ 40. $4 = 31 - 9y$ _____

41. $9y - 4 = 5$ _____ 42. $5 = 77 - 8y$ _____ 43. $16 = 8y - 8$ _____ 44. $2 = 14 - 2y$ _____

45. $23 = 6y - 1$ _____ 46. $29 - 7y = 8$ _____ 47. $41 - 5y = 1$ _____ 48. $0 = 28 - 4y$ _____

49. $5y - 6 = 29$ _____ 50. $38 = 8y - 2$ _____ 51. $7 = 23 - 4y$ _____ 52. $1y - 4 = 1$ _____

53. $24 = 7y - 4$ _____ 54. $8 = 53 - 5y$ _____ 55. $8 = 7y - 6$ _____ 56. $35 - 8y = 3$ _____

57. $9 = 17 - 1y$ _____ 58. $5 = 33 - 4y$ _____ 59. $20 = 3y - 1$ _____ 60. $6 = 26 - 4y$ _____

61. $1 = 2y - 5$ _____ 62. $4 = 12 - 4y$ _____ 63. $3 = 66 - 7y$ _____ 64. $3 = 2y - 1$ _____

65. $7 = 88 - 9y$ _____ 66. $3 = 39 - 6y$ _____ 67. $2 = 56 - 9y$ _____ 68. $3 = 1y - 3$ _____

69. $5y - 1 = 29$ _____ 70. $3y - 9 = 3$ _____ 71. $3y - 2 = 16$ _____ 72. $3 - 3y = 0$ _____

Name: _____

Class: _____

ALGEBRA

Solve for the variable.

1. $33 - 5y = 8$ $y = 5$
2. $3 = 11 - 8y$ $y = 1$
3. $7y - 7 = 28$ $y = 5$
4. $9y - 7 = 56$ $y = 7$
5. $8y - 7 = 25$ $y = 4$
6. $4y - 9 = 23$ $y = 8$
7. $3y - 2 = 19$ $y = 7$
8. $2 = 9 - 1y$ $y = 7$
9. $3 = 27 - 8y$ $y = 3$
10. $9 = 15 - 3y$ $y = 2$
11. $9 = 5y - 6$ $y = 3$
12. $4 = 6y - 8$ $y = 2$
13. $4 = 29 - 5y$ $y = 5$
14. $22 - 2y = 4$ $y = 9$
15. $9 = 16 - 7y$ $y = 1$
16. $41 - 7y = 6$ $y = 5$
17. $2 = 3y - 7$ $y = 3$
18. $62 - 7y = 6$ $y = 8$
19. $13 - 1y = 5$ $y = 8$
20. $48 - 8y = 8$ $y = 5$
21. $3y - 7 = 2$ $y = 3$
22. $17 = 3y - 4$ $y = 7$
23. $2y - 4 = 2$ $y = 3$
24. $3y - 8 = 1$ $y = 3$
25. $6y - 5 = 37$ $y = 7$
26. $4 = 76 - 9y$ $y = 8$
27. $5 = 25 - 4y$ $y = 5$
28. $35 - 3y = 8$ $y = 9$
29. $13 - 6y = 1$ $y = 2$
30. $9y - 8 = 28$ $y = 4$
31. $29 = 6y - 7$ $y = 6$
32. $8y - 5 = 43$ $y = 6$
33. $6 = 24 - 9y$ $y = 2$
34. $9 - 1y = 0$ $y = 9$
35. $21 = 8y - 3$ $y = 3$
36. $8y - 4 = 60$ $y = 8$
37. $18 = 5y - 2$ $y = 4$
38. $17 = 2y - 1$ $y = 9$
39. $1 = 9 - 4y$ $y = 2$
40. $4 = 31 - 9y$ $y = 3$
41. $9y - 4 = 5$ $y = 1$
42. $5 = 77 - 8y$ $y = 9$
43. $16 = 8y - 8$ $y = 3$
44. $2 = 14 - 2y$ $y = 6$
45. $23 = 6y - 1$ $y = 4$
46. $29 - 7y = 8$ $y = 3$
47. $41 - 5y = 1$ $y = 8$
48. $0 = 28 - 4y$ $y = 7$
49. $5y - 6 = 29$ $y = 7$
50. $38 = 8y - 2$ $y = 5$
51. $7 = 23 - 4y$ $y = 4$
52. $1y - 4 = 1$ $y = 5$
53. $24 = 7y - 4$ $y = 4$
54. $8 = 53 - 5y$ $y = 9$
55. $8 = 7y - 6$ $y = 2$
56. $35 - 8y = 3$ $y = 4$
57. $9 = 17 - 1y$ $y = 8$
58. $5 = 33 - 4y$ $y = 7$
59. $20 = 3y - 1$ $y = 7$
60. $6 = 26 - 4y$ $y = 5$
61. $1 = 2y - 5$ $y = 3$
62. $4 = 12 - 4y$ $y = 2$
63. $3 = 66 - 7y$ $y = 9$
64. $3 = 2y - 1$ $y = 2$
65. $7 = 88 - 9y$ $y = 9$
66. $3 = 39 - 6y$ $y = 6$
67. $2 = 56 - 9y$ $y = 6$
68. $3 = 1y - 3$ $y = 6$
69. $5y - 1 = 29$ $y = 6$
70. $3y - 9 = 3$ $y = 4$
71. $3y - 2 = 16$ $y = 6$
72. $3 - 3y = 0$ $y = 1$

Two-Step Equations With Integers

Solve each equation.

1) $\frac{r}{10} + 4 = 5$

2) $\frac{n}{2} + 5 = 3$

3) $3p - 2 = -29$

4) $1 - r = -5$

5) $\frac{k-10}{2} = -7$

6) $\frac{n-5}{2} = 5$

7) $-9 + \frac{n}{4} = -7$

8) $\frac{9+m}{3} = 2$

9) $\frac{-5+x}{22} = -1$

10) $4n - 9 = -9$

11) $\frac{x+9}{2} = 3$

12) $\frac{-12+x}{11} = -3$

13) $\frac{-4+x}{2} = 6$

14) $-5 + \frac{n}{3} = 0$

$$15) \frac{p}{4} + 8 = 7$$

$$16) 9 + \frac{n}{4} = 15$$

$$17) 6 + \frac{x}{2} = 4$$

$$18) \frac{b+11}{3} = -2$$

$$19) \frac{a-10}{3} = -4$$

$$20) -12r + 4 = 100$$

$$21) \frac{m}{16} - 9 = -8$$

$$22) -7 + 4r = -15$$

$$23) \frac{m-13}{2} = -8$$

$$24) -5x + 13 = -17$$

$$25) \frac{k+10}{-2} = 5$$

$$26) \frac{p+8}{-2} = 10$$

$$27) -14r - 19 = 303$$

$$28) \frac{x}{-4} - 5 = -8$$

Two-Step Equations With Integers

Solve each equation.

1) $\frac{r}{10} + 4 = 5$

{10}

2) $\frac{n}{2} + 5 = 3$

{-4}

3) $3p - 2 = -29$

{-9}

4) $1 - r = -5$

{6}

5) $\frac{k-10}{2} = -7$

{-4}

6) $\frac{n-5}{2} = 5$

{15}

7) $-9 + \frac{n}{4} = -7$

{8}

8) $\frac{9+m}{3} = 2$

{-3}

9) $\frac{-5+x}{22} = -1$

{-17}

10) $4n - 9 = -9$

{0}

11) $\frac{x+9}{2} = 3$

{-3}

12) $\frac{-12+x}{11} = -3$

{-21}

13) $\frac{-4+x}{2} = 6$

{16}

14) $-5 + \frac{n}{3} = 0$

{15}

$$15) \frac{p}{4} + 8 = 7$$

$$\{-4\}$$

$$16) 9 + \frac{n}{4} = 15$$

$$\{24\}$$

$$17) 6 + \frac{x}{2} = 4$$

$$\{-4\}$$

$$18) \frac{b+11}{3} = -2$$

$$\{-17\}$$

$$19) \frac{a-10}{3} = -4$$

$$\{-2\}$$

$$20) -12r + 4 = 100$$

$$\{-8\}$$

$$21) \frac{m}{16} - 9 = -8$$

$$\{16\}$$

$$22) -7 + 4r = -15$$

$$\{-2\}$$

$$23) \frac{m-13}{2} = -8$$

$$\{-3\}$$

$$24) -5x + 13 = -17$$

$$\{6\}$$

$$25) \frac{k+10}{-2} = 5$$

$$\{-20\}$$

$$26) \frac{p+8}{-2} = 10$$

$$\{-28\}$$

$$27) -14r - 19 = 303$$

$$\{-23\}$$

$$28) \frac{x}{-4} - 5 = -8$$

$$\{12\}$$

Two-Step Equations With Decimals

Solve each equation.

1) $\frac{m}{2.8} - 4.9 = -7.11$

2) $0.4x + 3.9 = 5.78$

3) $\frac{-10.5 + m}{11.57} = -2.748$

4) $9.2r + 5.514 = 158.234$

5) $\frac{v}{10.44} - 2.9 = -4.422$

6) $-5.4 - 7.8x = -78.408$

7) $\frac{k - 2.6}{5.2} = -0.418$

8) $-8.38v + 10.71 = 131.382$

$$9) \frac{2.8 + x}{3.1} = 2.709$$

$$10) \frac{n - 12.9}{6.1} = -0.377$$

$$11) \frac{-7.3 + r}{9.2} = -0.739$$

$$12) \frac{-13.3 + k}{11.796} = -0.296$$

$$13) \frac{12.1 + a}{4.9} = 7.071$$

$$14) -13.9 + \frac{b}{12.8} = -13.306$$

$$15) \frac{12.84 + x}{2.89} = -2.166$$

$$16) 3.649 + 12.3v = 146.329$$

$$17) -3.8 - 13.4p = -460.606$$

$$18) \frac{r - 8.7}{3.6} = 3.722$$

Two-Step Equations With Decimals

Solve each equation.

1) $\frac{m}{2.8} - 4.9 = -7.11$

 $\{-6.188\}$

2) $0.4x + 3.9 = 5.78$

 $\{4.7\}$

3) $\frac{-10.5 + m}{11.57} = -2.748$

 $\{-21.29436\}$

4) $9.2r + 5.514 = 158.234$

 $\{16.6\}$

5) $\frac{v}{10.44} - 2.9 = -4.422$

 $\{-15.88968\}$

6) $-5.4 - 7.8x = -78.408$

 $\{9.36\}$

7) $\frac{k - 2.6}{5.2} = -0.418$

 $\{0.4264\}$

8) $-8.38v + 10.71 = 131.382$

 $\{-14.4\}$

$$9) \frac{2.8 + x}{3.1} = 2.709$$
$$\{5.5979\}$$

$$10) \frac{n - 12.9}{6.1} = -0.377$$
$$\{10.6003\}$$

$$11) \frac{-7.3 + r}{9.2} = -0.739$$
$$\{0.5012\}$$

$$12) \frac{-13.3 + k}{11.796} = -0.296$$
$$\{9.808384\}$$

$$13) \frac{12.1 + a}{4.9} = 7.071$$
$$\{22.5479\}$$

$$14) -13.9 + \frac{b}{12.8} = -13.306$$
$$\{7.6032\}$$

$$15) \frac{12.84 + x}{2.89} = -2.166$$
$$\{-19.09974\}$$

$$16) 3.649 + 12.3v = 146.329$$
$$\{11.6\}$$

$$17) -3.8 - 13.4p = -460.606$$
$$\{34.09\}$$

$$18) \frac{r - 8.7}{3.6} = 3.722$$
$$\{22.0992\}$$

Two-Step Equation Word Problems

- 1) 331 students went on a field trip. Six buses were filled and 7 students traveled in cars. How many students were in each bus?
- 2) Aliyah had \$24 to spend on seven pencils. After buying them she had \$10. How much did each pencil cost?
- 3) The sum of three consecutive numbers is 72. What are the smallest of these numbers?
- 4) The sum of three consecutive even numbers is 48. What are the smallest of these numbers?
- 5) You bought a magazine for \$5 and four erasers. You spent a total of \$25. How much did each eraser cost?
- 6) Maria bought seven boxes. A week later half of all her boxes were destroyed in a fire. There are now only 22 boxes left. With how many did she start?
- 7) Sumalee won 40 super bouncy balls playing horseshoes at her school's game night. Later, she gave two to each of her friends. She only has 8 remaining. How many friends does she have?
- 8) Imani spent half of her weekly allowance playing mini-golf. To earn more money her parents let her wash the car for \$4. What is her weekly allowance if she ended with \$12?

9) Aliyah had some candy to give to her four children. She first took ten pieces for herself and then evenly divided the rest among her children. Each child received two pieces. With how many pieces did she start?

10) How old am I if 400 reduced by 2 times my age is 244?

11) Jill sold half of her comic books and then bought sixteen more. She now has 36. With how many did she begin?

12) For a field trip 4 students rode in cars and the rest filled nine buses. How many students were in each bus if 472 students were on the trip?

13) On Tuesday Shanice bought five hats. On Wednesday half of all the hats that she had were destroyed. On Thursday there were only 17 left. How many did she have on Monday?

14) The Cooking Club made some pies to sell at a basketball game to raise money for the new math books. The cafeteria contributed four pies to the sale. Each pie was then cut into five pieces and sold. There were a total of 60 pieces to sell. How many pies did the club make?

Two-Step Equation Word Problems

- 1) 331 students went on a field trip. Six buses were filled and 7 students traveled in cars. How many students were in each bus?
54
- 2) Aliyah had \$24 to spend on seven pencils. After buying them she had \$10. How much did each pencil cost?
\$2
- 3) The sum of three consecutive numbers is 72. What are the smallest of these numbers?
23
- 4) The sum of three consecutive even numbers is 48. What are the smallest of these numbers?
14
- 5) You bought a magazine for \$5 and four erasers. You spent a total of \$25. How much did each eraser cost?
\$5
- 6) Maria bought seven boxes. A week later half of all her boxes were destroyed in a fire. There are now only 22 boxes left. With how many did she start?
37
- 7) Sumalee won 40 super bouncy balls playing horseshoes at her school's game night. Later, she gave two to each of her friends. She only has 8 remaining. How many friends does she have?
16
- 8) Imani spent half of her weekly allowance playing mini-golf. To earn more money her parents let her wash the car for \$4. What is her weekly allowance if she ended with \$12?
\$16

9) Aliyah had some candy to give to her four children. She first took ten pieces for herself and then evenly divided the rest among her children. Each child received two pieces. With how many pieces did she start?

18

10) How old am I if 400 reduced by 2 times my age is 244?

78

11) Jill sold half of her comic books and then bought sixteen more. She now has 36. With how many did she begin?

40

12) For a field trip 4 students rode in cars and the rest filled nine buses. How many students were in each bus if 472 students were on the trip?

52

13) On Tuesday Shanice bought five hats. On Wednesday half of all the hats that she had were destroyed. On Thursday there were only 17 left. How many did she have on Monday?

29

14) The Cooking Club made some pies to sell at a basketball game to raise money for the new math books. The cafeteria contributed four pies to the sale. Each pie was then cut into five pieces and sold. There were a total of 60 pieces to sell. How many pies did the club make?

8

Multi-Step Equations

Solve each equation.

1) $6a + 5a = -11$

2) $-6n - 2n = 16$

3) $4x + 6 + 3 = 17$

4) $0 = -5n - 2n$

5) $6r - 1 + 6r = 11$

6) $r + 11 + 8r = 29$

7) $-10 = -14v + 14v$

8) $-10p + 9p = 12$

9) $42 = 8m + 13m$

10) $a - 2 + 3 = -2$

11) $18 = 3(3x - 6)$

12) $30 = -5(6n + 6)$

$$13) 37 = -3 + 5(x + 6)$$

$$14) -13 = 5(1 + 4m) - 2m$$

$$15) 4(-x + 4) = 12$$

$$16) -2 = -(n - 8)$$

$$17) -6(1 - 5v) = 54$$

$$18) 8 = 8v - 4(v + 8)$$

$$19) 10(1 + 3b) = -20$$

$$20) -5n - 8(1 + 7n) = -8$$

$$21) 8(4k - 4) = -5k - 32$$

$$22) -8(-8x - 6) = -6x - 22$$

$$23) 8(1 + 5x) + 5 = 13 + 5x$$

$$24) -11 - 5a = 6(5a + 4)$$

Multi-Step Equations

Solve each equation.

1) $6a + 5a = -11$

 $\{-1\}$

2) $-6n - 2n = 16$

 $\{-2\}$

3) $4x + 6 + 3 = 17$

 $\{2\}$

4) $0 = -5n - 2n$

 $\{0\}$

5) $6r - 1 + 6r = 11$

 $\{1\}$

6) $r + 11 + 8r = 29$

 $\{2\}$

7) $-10 = -14v + 14v$

No solution.

8) $-10p + 9p = 12$

 $\{-12\}$

9) $42 = 8m + 13m$

 $\{2\}$

10) $a - 2 + 3 = -2$

 $\{-3\}$

11) $18 = 3(3x - 6)$

 $\{4\}$

12) $30 = -5(6n + 6)$

 $\{-2\}$

$$13) 37 = -3 + 5(x + 6)$$
$$\{2\}$$

$$14) -13 = 5(1 + 4m) - 2m$$
$$\{-1\}$$

$$15) 4(-x + 4) = 12$$
$$\{1\}$$

$$16) -2 = -(n - 8)$$
$$\{10\}$$

$$17) -6(1 - 5v) = 54$$
$$\{2\}$$

$$18) 8 = 8v - 4(v + 8)$$
$$\{10\}$$

$$19) 10(1 + 3b) = -20$$
$$\{-1\}$$

$$20) -5n - 8(1 + 7n) = -8$$
$$\{0\}$$

$$21) 8(4k - 4) = -5k - 32$$
$$\{0\}$$

$$22) -8(-8x - 6) = -6x - 22$$
$$\{-1\}$$

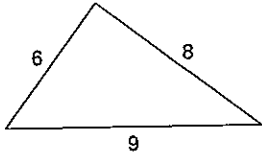
$$23) 8(1 + 5x) + 5 = 13 + 5x$$
$$\{0\}$$

$$24) -11 - 5a = 6(5a + 4)$$
$$\{-1\}$$

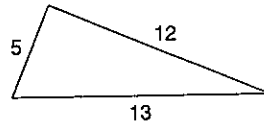
The Pythagorean Theorem

Do the following lengths form a right triangle?

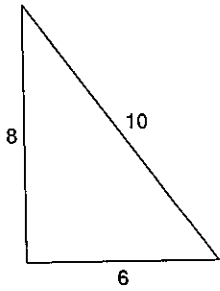
1)



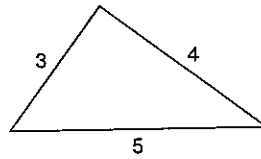
2)



3)



4)

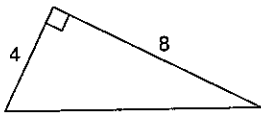


5) $a = 6.4$, $b = 12$, $c = 12.2$

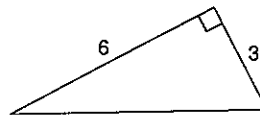
6) $a = 2.1$, $b = 7.2$, $c = 7.5$

Find each missing length to the nearest tenth.

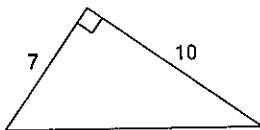
7)



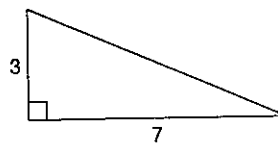
8)



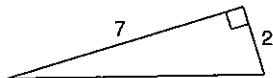
9)



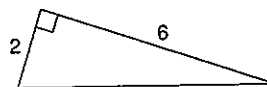
10)



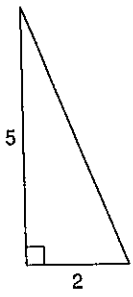
11)



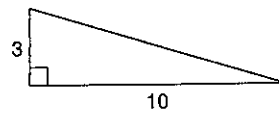
12)



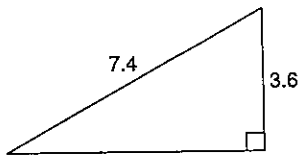
13)



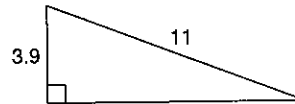
14)



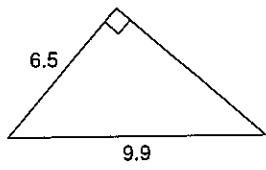
15)



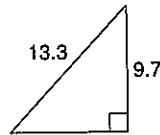
16)



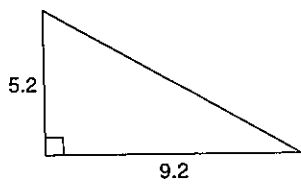
17)



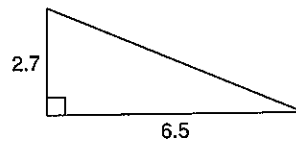
18)



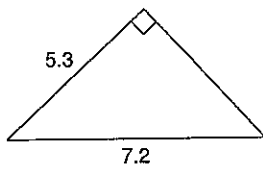
19)



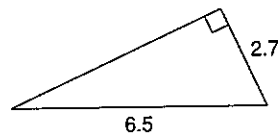
20)



21)



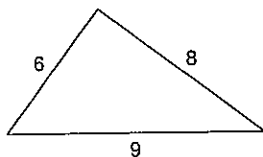
22)



The Pythagorean Theorem

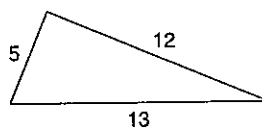
Do the following lengths form a right triangle?

1)



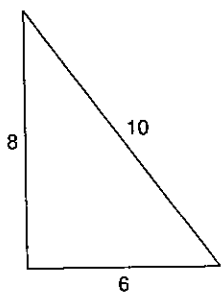
No

2)



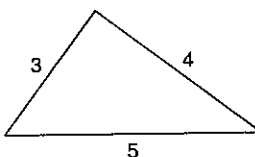
Yes

3)



Yes

4)



Yes

5) $a = 6.4$, $b = 12$, $c = 12.2$

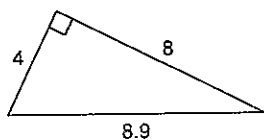
No

6) $a = 2.1$, $b = 7.2$, $c = 7.5$

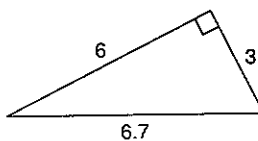
Yes

Find each missing length to the nearest tenth.

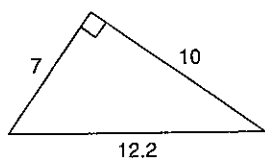
7)



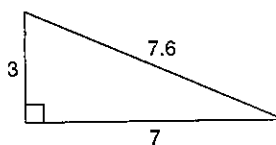
8)



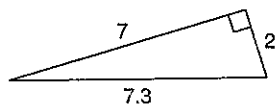
9)



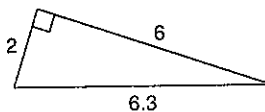
10)



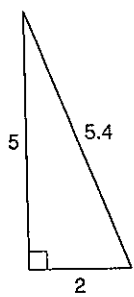
11)



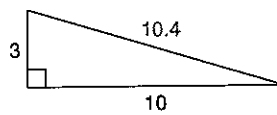
12)



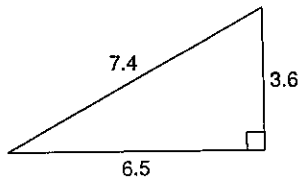
13)



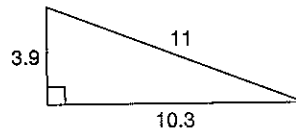
14)



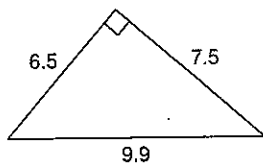
15)



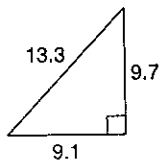
16)



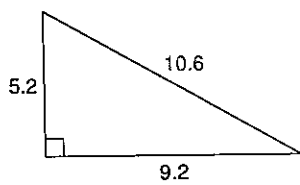
17)



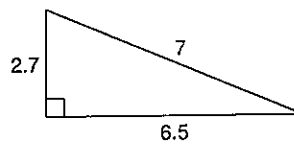
18)



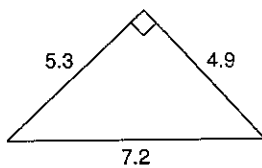
19)



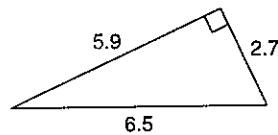
20)



21)



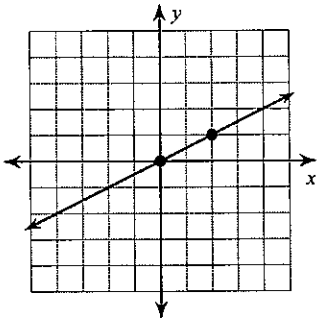
22)



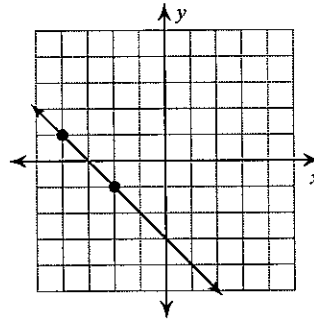
Finding Slope From a Graph

Find the slope of each line.

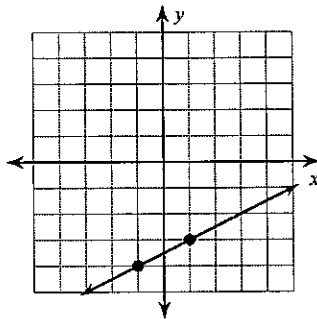
1)



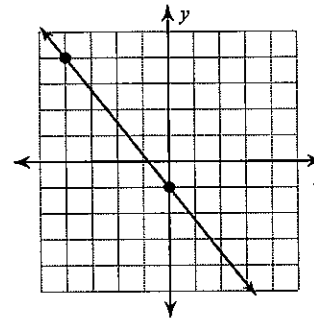
2)



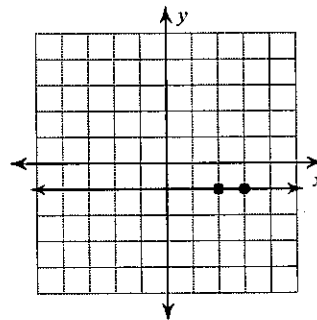
3)



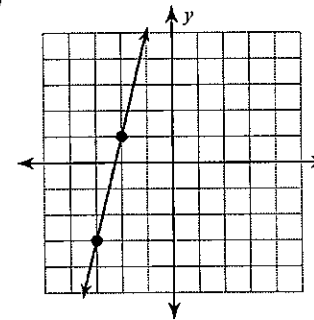
4)



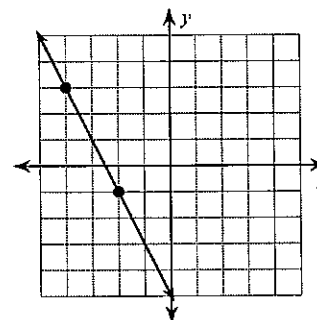
5)



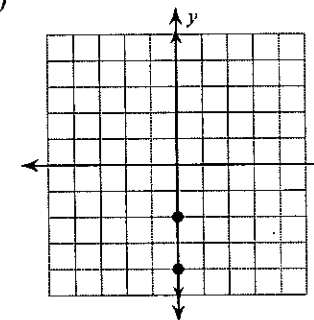
6)



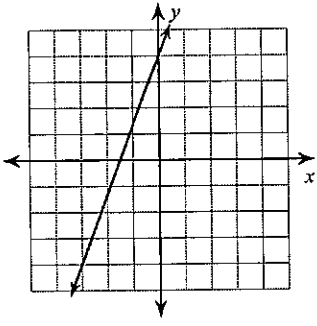
7)



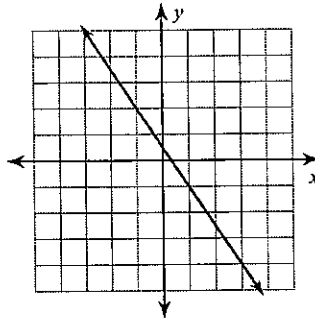
8)



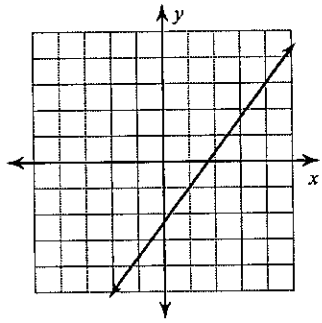
9)



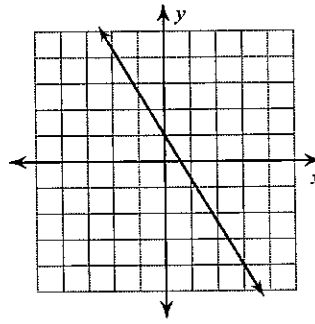
10)



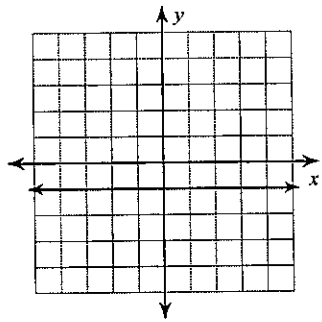
11)



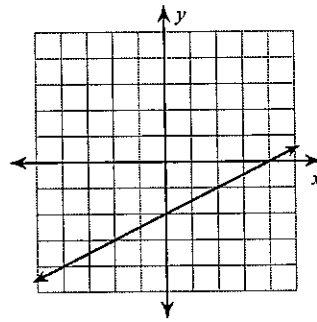
12)



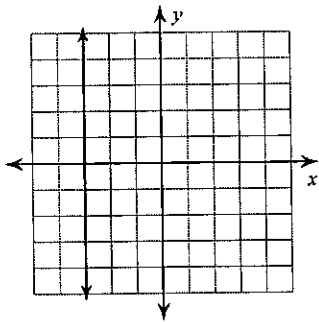
13)



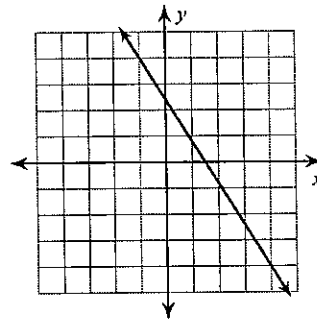
14)



15)



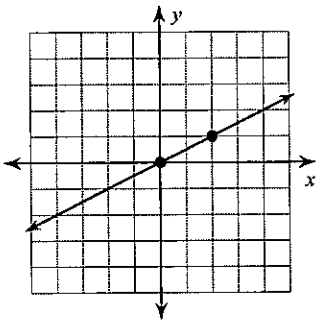
16)



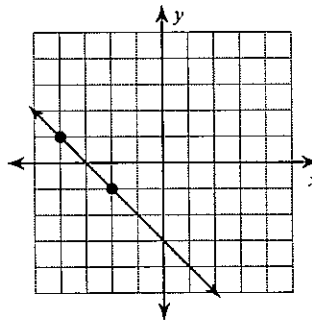
Finding Slope From a Graph

Find the slope of each line.

1) $\frac{1}{2}$

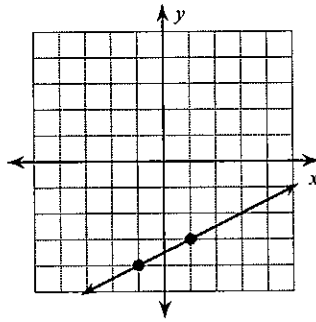


2)

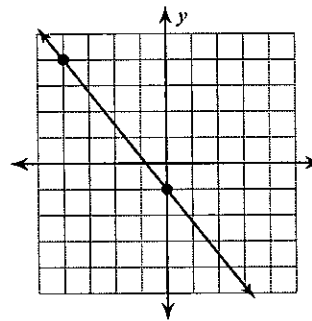


-1

3) $\frac{1}{2}$

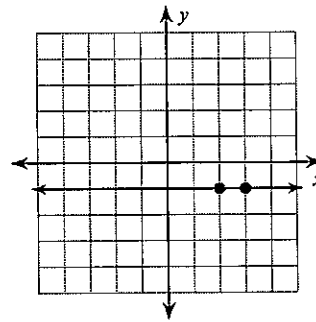


4)



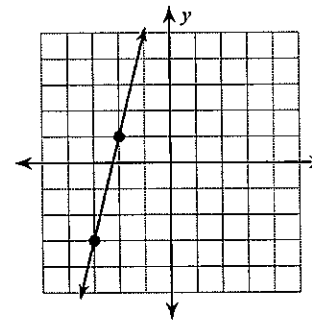
$-\frac{5}{4}$

5)



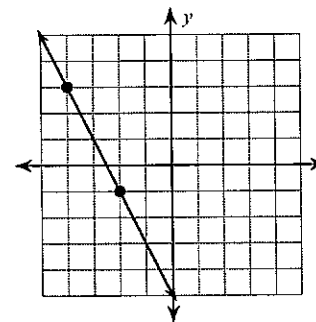
0

6)



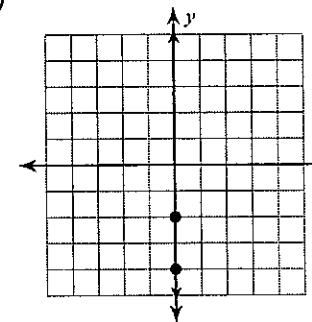
4

7)



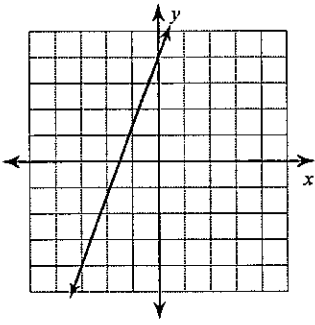
-2

8)



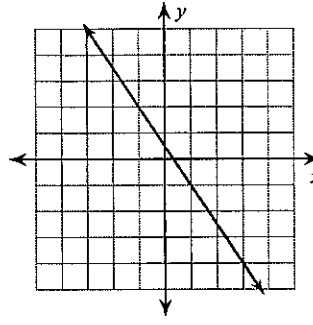
Undefined

9)



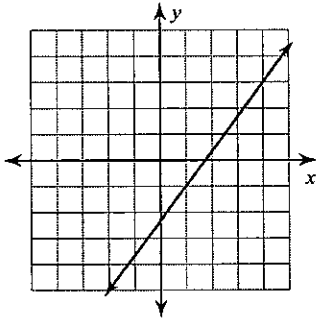
$$\frac{8}{3}$$

10)



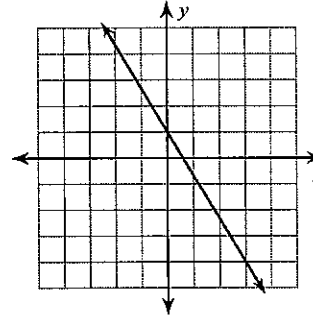
$$-\frac{3}{2}$$

11)



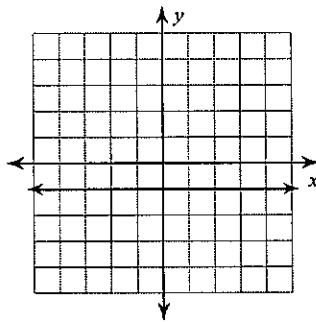
$$\frac{4}{3}$$

12)



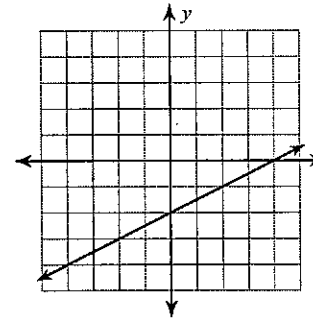
$$-\frac{5}{3}$$

13)



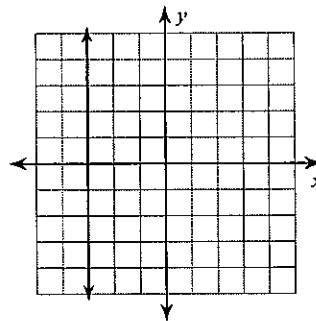
$$0$$

14)



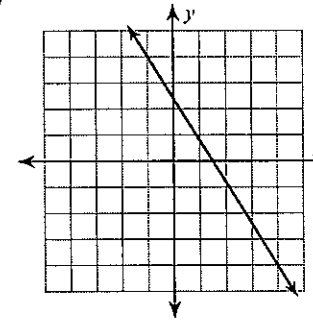
$$\frac{1}{2}$$

15)



Undefined

16)



$$-\frac{8}{5}$$

Finding Slope From Two Points

Find the slope of the line through each pair of points.

1) $(19, -16), (-7, -15)$

2) $(1, -19), (-2, -7)$

3) $(-4, 7), (-6, -4)$

4) $(20, 8), (9, 16)$

5) $(17, -13), (17, 8)$

6) $(19, 3), (20, 3)$

7) $(3, 0), (-11, -15)$

8) $(19, -2), (-11, 10)$

9) $(6, -10), (-15, 15)$

10) $(12, -18), (-15, -18)$

11) $(3, -20), (5, 8)$

12) $(15, 8), (-17, 9)$

13) $(-19, 12), (-9, 1)$

14) $(12, 2), (-7, 5)$

15) $(6, -12), (15, -3)$

16) $(9, 3), (19, -17)$

Finding Slope From Two Points

Find the slope of the line through each pair of points.

1) $(19, -16), (-7, -15)$

$$-\frac{1}{26}$$

2) $(1, -19), (-2, -7)$

$$-4$$

3) $(-4, 7), (-6, -4)$

$$\frac{11}{2}$$

4) $(20, 8), (9, 16)$

$$-\frac{8}{11}$$

5) $(17, -13), (17, 8)$

Undefined

6) $(19, 3), (20, 3)$

0

7) $(3, 0), (-11, -15)$

$$\frac{15}{14}$$

8) $(19, -2), (-11, 10)$

$$-\frac{2}{5}$$



9) $(6, -10), (-15, 15)$

$$-\frac{25}{21}$$

10) $(12, -18), (-15, -18)$

$$0$$

11) $(3, -20), (5, 8)$

$$14$$

12) $(15, 8), (-17, 9)$

$$-\frac{1}{32}$$

13) $(-19, 12), (-9, 1)$

$$-\frac{11}{10}$$

14) $(12, 2), (-7, 5)$

$$-\frac{3}{19}$$

15) $(6, -12), (15, -3)$

$$1$$

16) $(9, 3), (19, -17)$

$$-2$$

Finding Slope From an Equation

Find the slope of each line.

1) $y = -\frac{5}{2}x - 5$

2) $y = -\frac{4}{3}x - 1$

3) $y = -x + 3$

4) $y = -4x - 1$

5) $2x - y = 1$

6) $x + 2y = -8$

7) $8x + 3y = -9$

8) $4x + 5y = -10$

9) $x - y = -2$

10) $4x - 3y = 9$

$$11) 3x + 2y = 6$$

$$12) 4x - 5y = 0$$

$$13) y = -1$$

$$14) x + 5y = -15$$

$$15) -2y - 10 + 2x = 0$$

$$16) x + 5 + y = 0$$

$$17) 3x + 20 = -4y$$

$$18) -15 - x = -5y$$

$$19) -1 = -2x + y$$

$$20) -x - 1 = y$$

$$21) 0 = 5y - x$$

$$22) -30 + 10y = -2x$$

Finding Slope From an Equation

Find the slope of each line.

1) $y = -\frac{5}{2}x - 5$

$-\frac{5}{2}$

2) $y = -\frac{4}{3}x - 1$

$-\frac{4}{3}$

3) $y = -x + 3$

-1

4) $y = -4x - 1$

-4

5) $2x - y = 1$

2

6) $x + 2y = -8$

$-\frac{1}{2}$

7) $8x + 3y = -9$

$-\frac{8}{3}$

8) $4x + 5y = -10$

$-\frac{4}{5}$

9) $x - y = -2$

1

10) $4x - 3y = 9$

$\frac{4}{3}$

$$11) 3x + 2y = 6$$

$$-\frac{3}{2}$$

$$12) 4x - 5y = 0$$

$$\frac{4}{5}$$

$$13) y = -1$$

$$0$$

$$14) x + 5y = -15$$

$$-\frac{1}{5}$$

$$15) -2y - 10 + 2x = 0$$

$$1$$

$$16) x + 5 + y = 0$$

$$-1$$

$$17) 3x + 20 = -4y$$

$$-\frac{3}{4}$$

$$18) -15 - x = -5y$$

$$\frac{1}{5}$$

$$19) -1 = -2x + y$$

$$2$$

$$20) -x - 1 = y$$

$$-1$$

$$21) 0 = 5y - x$$

$$\frac{1}{5}$$

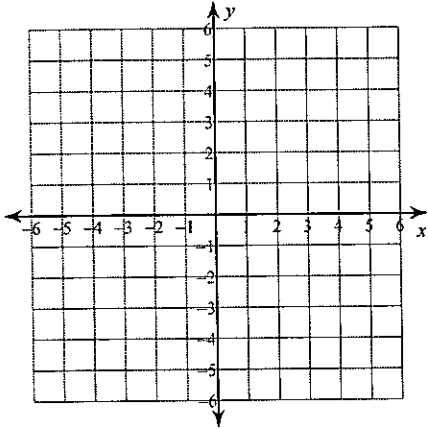
$$22) -30 + 10y = -2x$$

$$-\frac{1}{5}$$

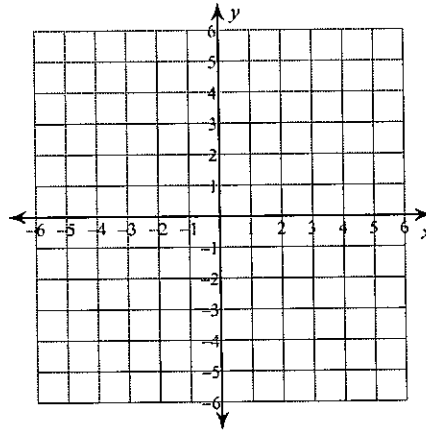
Graphing Lines

Sketch the graph of each line.

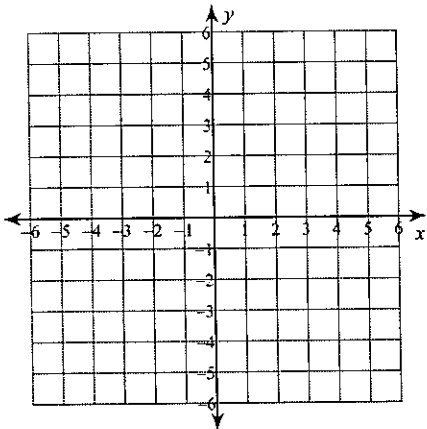
1) $y = \frac{7}{2}x - 2$



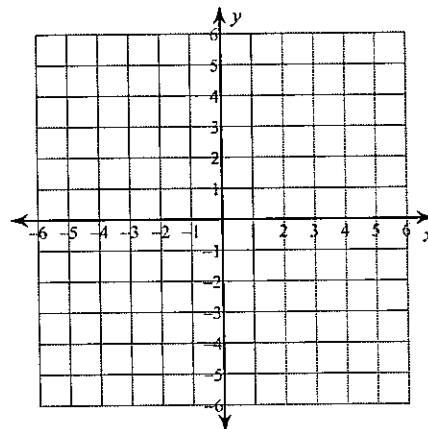
2) $y = -6x + 3$



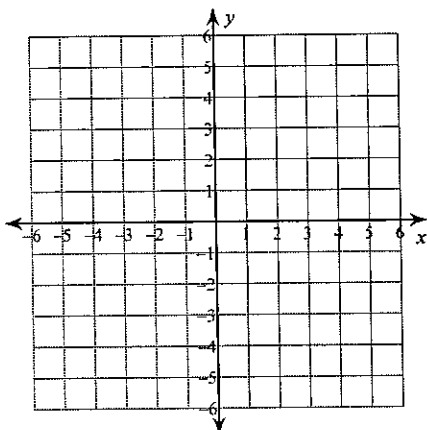
3) $y = -5$



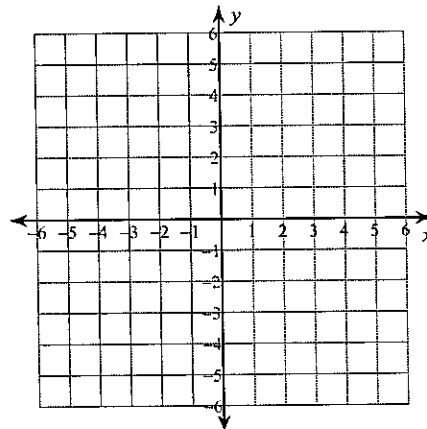
4) $y = \frac{6}{5}x + 1$



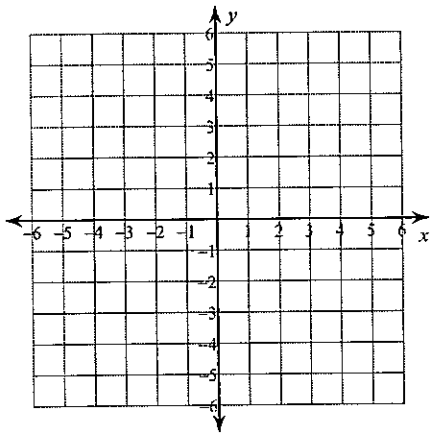
5) $y = \frac{1}{4}x + 2$



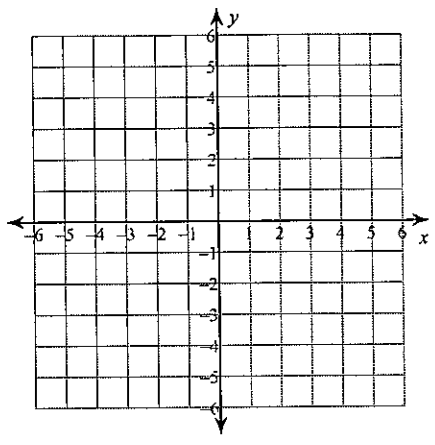
6) $x = 5$



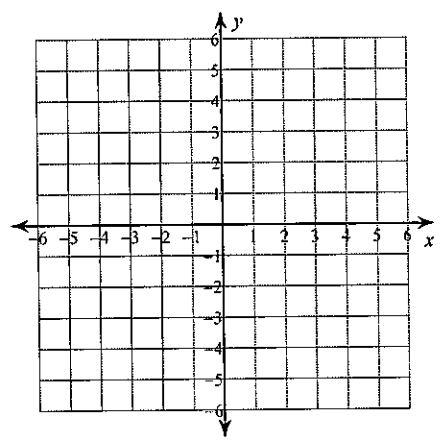
7) $y = \frac{5}{3}x$



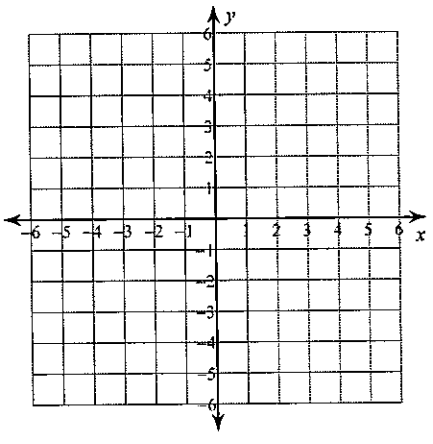
8) $x = 0$



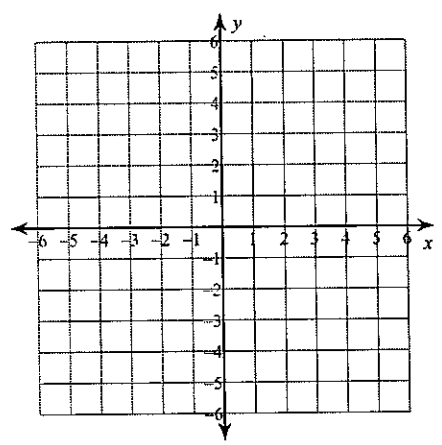
9) $y = -\frac{1}{3}x + 3$



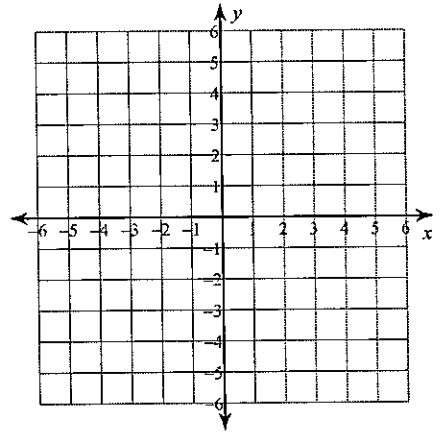
10) $y = \frac{1}{5}x - 4$



11) $y = \frac{1}{2}x - 2$



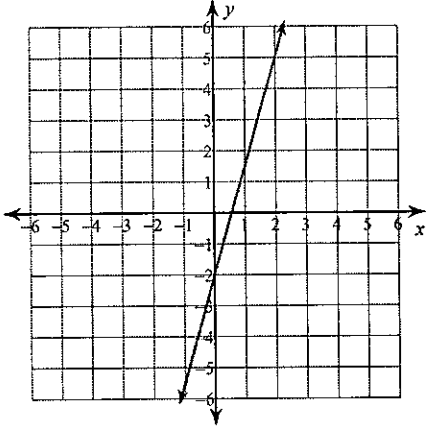
12) $y = 2x + 5$



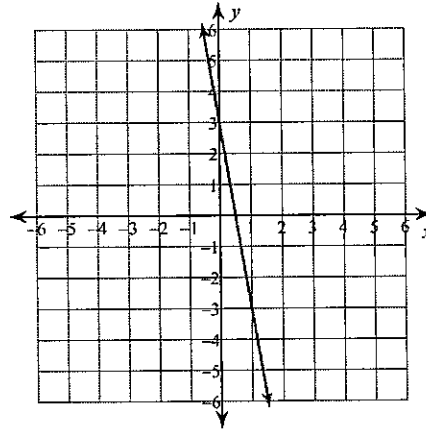
Graphing Lines

Sketch the graph of each line.

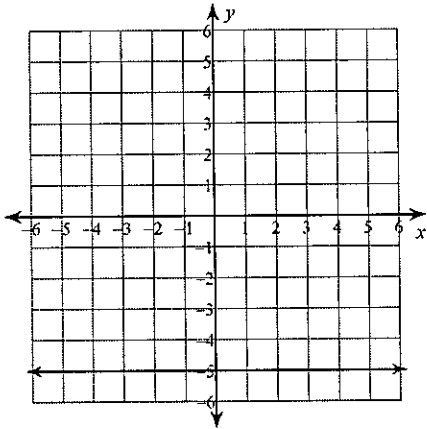
1) $y = \frac{7}{2}x - 2$



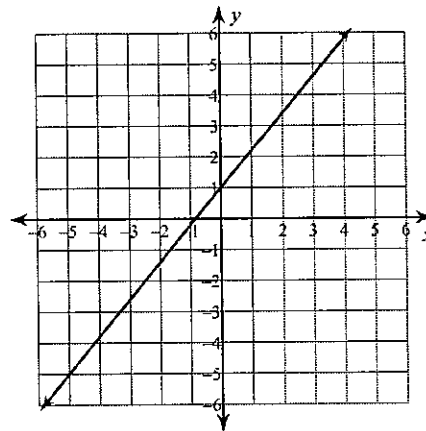
2) $y = -6x + 3$



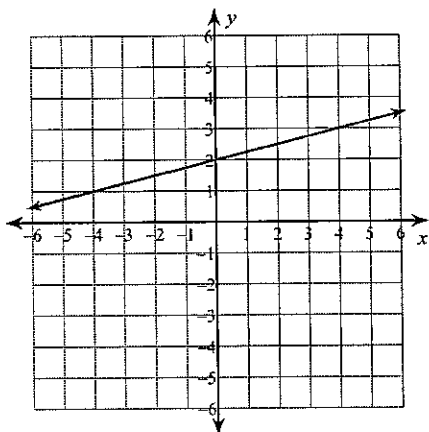
3) $y = -5$



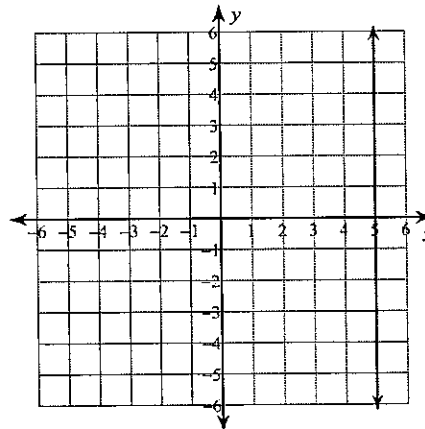
4) $y = \frac{6}{5}x + 1$



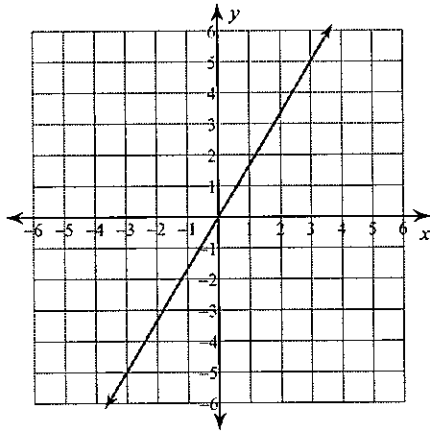
5) $y = \frac{1}{4}x + 2$



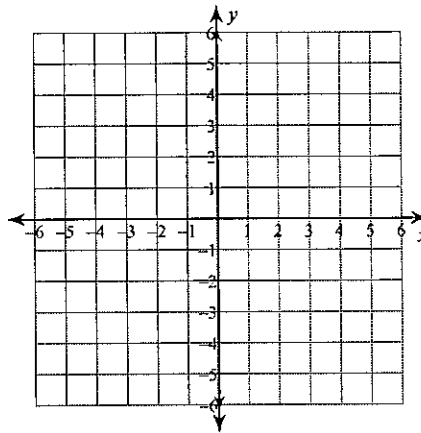
6) $x = 5$



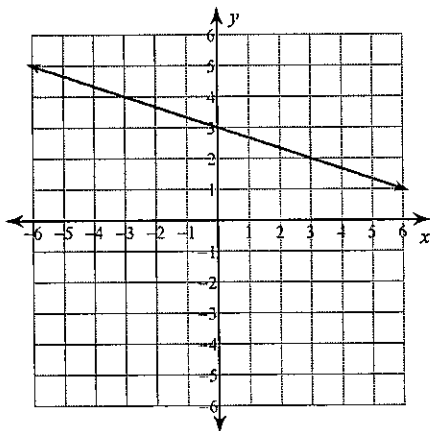
7) $y = \frac{5}{3}x$



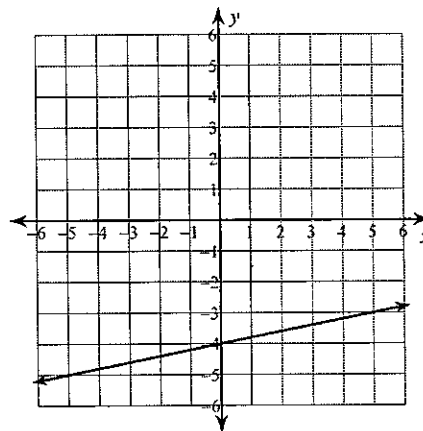
8) $x = 0$



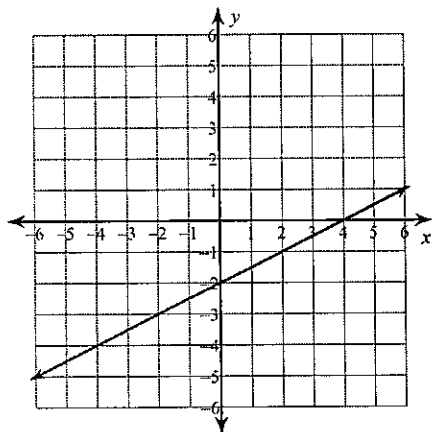
9) $y = -\frac{1}{3}x + 3$



10) $y = \frac{1}{5}x - 4$



11) $y = \frac{1}{2}x - 2$



12) $y = 2x + 5$

