# Level: 1

**Write the name of each decimal place indicated.**

1) $\underline{3}$,297

2) 9.639$\underline{7}$4

**Write each as a numeral.**

3) six hundred thousand

4) five thousand

**Evaluate each expression.**

5) $7 + 1$

6) $3 + 6$

**Find each product.**

7) $4 \times 4$

8) $3 \times 2$

**Find each quotient.**

9) $7 \div 94$

10) $20 \div 4$

**List all positive factors of each.**

11) 82

12) 15

**Find the GCF of each.**

13) 03 ,01

14) 18, 27

**Find the LCM of each.**

15) 6 ,4

16) 20, 16

**Simplify each. Write your answer as a mixed number when possible.**

17) $\dfrac{3}{12}$

18) $\dfrac{6}{8}$

**Write each as a percent. Round to the nearest tenth of a percent.**

19) 0.3

20) 0.73

**Evaluate each expression.**

21) 2 increased by 7

22) half of 4

23) $4 \div 2 \times 4$

24) $1^2 \times 4$

**Simplify each expression.**

25) $-2n + 10n$

26) $2 - 5k + 5 - 3k$

**Solve each equation.**

27) $-2p = 6$

28) $\dfrac{x}{4} = -2$

29) How old is Adam if he will be 20 years old in fourteen years?

30) A recipe for cupcakes calls for 9 cups of sugar. Jack accidentally put in 10 cups. How many extra cups did he put in?

**Solve each equation.**

31) $2r + 4 = -4$

32) $-2x + 2 = -2$

33) Nicole had $20 to spend on three pens. After buying them she had $8. How much did each pen cost?

34) Totsakan had $20 to spend on seven pencils. After buying them he had $6. How much did each pencil cost?
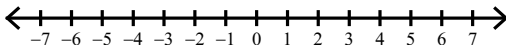
**Solve each equation.**

35) $3v - 6 - v = -10$

36) $-15 = 5x - 5 + 5x$

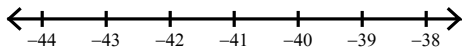**Draw a graph for each inequality.**

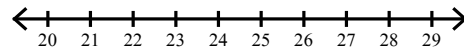37) $v \geq -1$
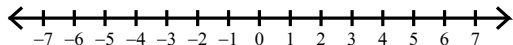


38) $k > -5$

**Solve each inequality and graph its solution.**
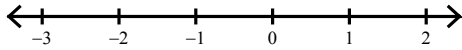
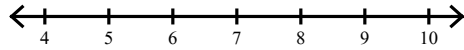39) $\dfrac{k}{7} \ge -6$



40) $\dfrac{p}{8} < 3$



41) $2n + 2 < 0$
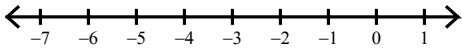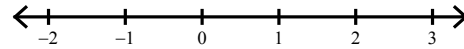


42) $-4x + 5 < -19$



43) $-9 \ge 6m - 3 + 6$



44) $r + 6r \le 7$



**State if the first number is divisible by the second number.**

45) 29 by 5

46) 34 by 5

**Simplify. Your answer should contain only positive exponents.**

47) $b^2 \cdot 3b^2$

48) $2v^3 \cdot 3v^3$

**Write each number in standard notation.**

49) $3.4 \times 10^2$

50) $3.5 \times 10^{-2}$

**Simplify. Write each answer in scientific notation.**

51) $\left(5.8 \times 10^1\right)\left(9.44 \times 10^{-3}\right)$

52) $\left(1.7 \times 10^{-2}\right)\left(7 \times 10^3\right)$

**State if each pair of ratios forms a proportion.**

53) $\dfrac{4}{2}$ and $\dfrac{20}{8}$

54) $\dfrac{3}{2}$ and $\dfrac{15}{6}$

**Solve each proportion.**

55) $\dfrac{8}{2} = \dfrac{n}{5}$

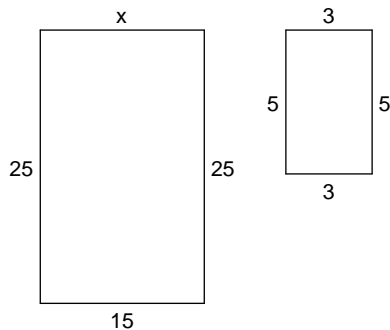56) $\dfrac{5}{k} = \dfrac{6}{5}$

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

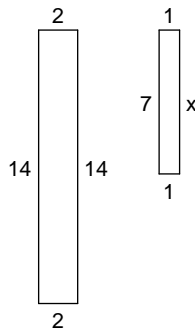57) One cantaloupe costs $2. How many cantaloupes can you buy for $4?

58) One package of strawberries costs $3. How many packages of strawberries can you buy for $9?

**Each pair of figures is similar. Find the missing side.**

59)

```
x          3
┌────┐   ┌──┐
│    │  5│  │5
25│  │25  └──┘
│    │     3
│    │
└────┘
  15
```

60)

```
2      1
┌┐    ┌┐
││   7││ x
││    └┘
14││14  1
││
└┘
 2
```

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

61) A telephone booth that is 8 ft tall casts a shadow that is 16 ft long. Find the length of the shadow that a 6 ft baby giraffe casts.

62) A statue that is 18 ft tall casts a shadow that is 9 ft long. Find the length of the shadow that a 10 ft tent casts.

**Write each as a percent. Round to the nearest tenth of a percent.**

63) 0.054

64) 0.012

**Solve each problem.**

65) 87% of 79 is what?

66) What is 44% of 14?

**Find each percent change. Round to the nearest tenth of a percent. State if it is an increase or decrease.**

67) From 17 to 20

68) From 8 to 15

**Find the selling price of each item.**

69) Original price of a purse: $149.95
Discount: 13%

70) Original price of pants: $49.50
Discount: 11%

**Use simple interest to find the ending balance.**

71) $31,300 at 3% for 3 years

72) $26,100 at 11% for 2 years

**State the quadrant or axis that each point lies in.**
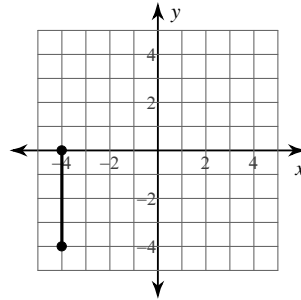
73) $(1, -1)$

74) $(-3, 0)$

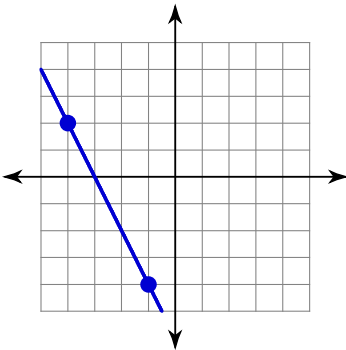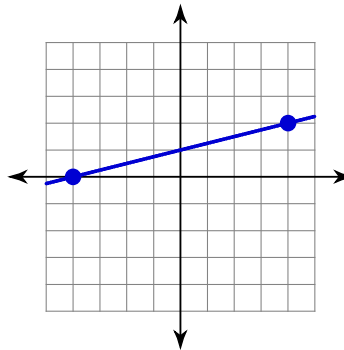**Find the midpoint of each line segment.**

75)
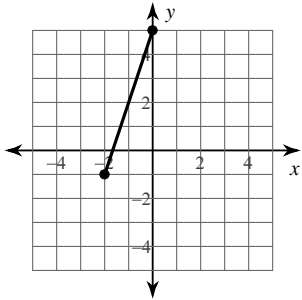
76)

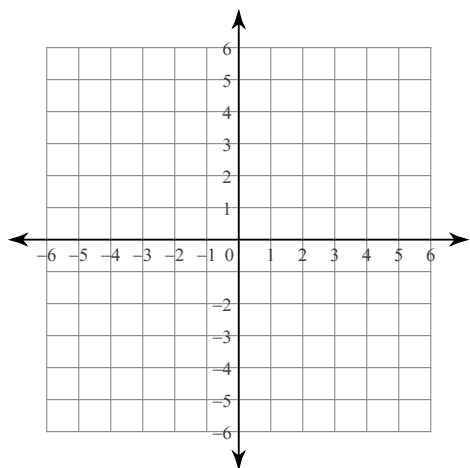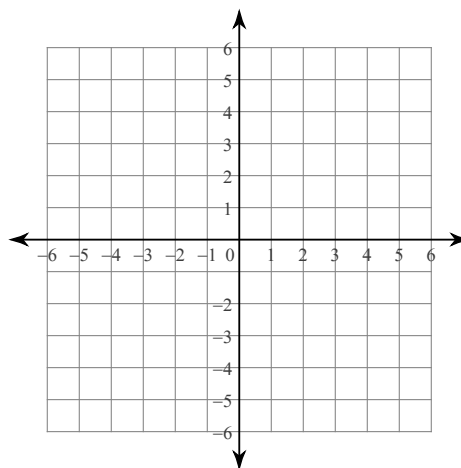**Find the slope of each line.**

77)

78)

**Sketch the graph of each line.**

79)  x-intercept = 3, y-intercept = −3
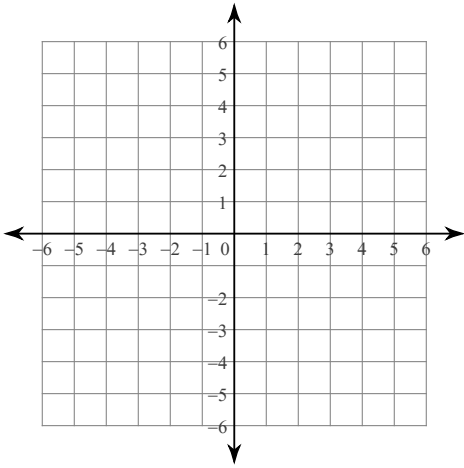


80)  x-intercept = 5, y-intercept = 4



**Write the slope-intercept form of the equation of each line given the slope and y-intercept.**
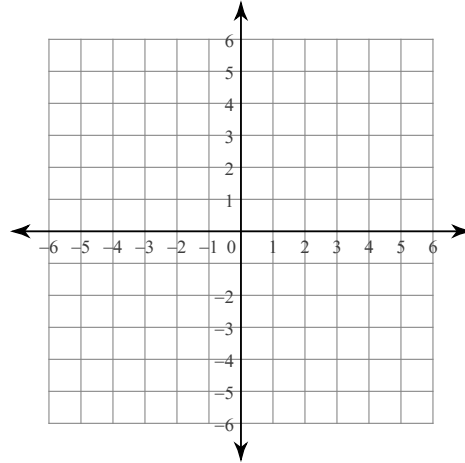
81)  Slope = −5,   y-intercept = 0

82)  Slope = $\dfrac{7}{3}$,   y-intercept = −2

**Sketch the graph of each linear inequality.**

83) $y < -4x + 3$

84) $y < \dfrac{7}{5}x + 2$

**Solve each system by graphing.**

85) $y = -x - 3$
$y = -8x + 4$

86) $y = \dfrac{1}{2}x - 3$

$y = -\dfrac{3}{4}x + 2$

**Solve each system by substitution.**

87) $y = -5$
$-3x + 4y = -8$

88) $y = -4$
$-2x - 2y = 0$

89) There are 26 animals in the field. Some are goats and some are geese. There are 92 legs in all. How many of each animal are in the field?

90) Brenda spent $28 on writing utensils. Pens cost $4 and pencils cost $3. If she bought a total of 8 then how many of each kind did she buy?

**Find the measure of each angle to the nearest degree.**

91)
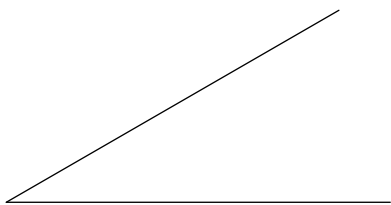
92)
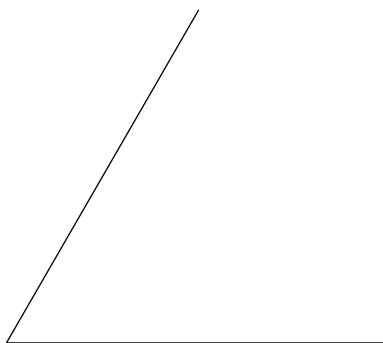
**Name the relationship: complementary, supplementary, vertical, or adjacent.**

93)

b

a

94)

b

a
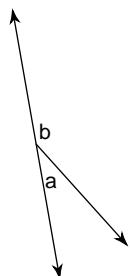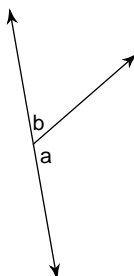
95)
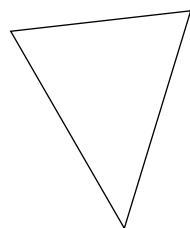
96)
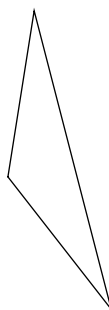
97)
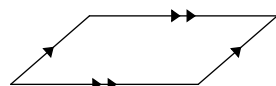
98)
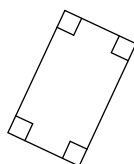
**Find the area of each.**

99)



4 km

3 km

100)



7 cm
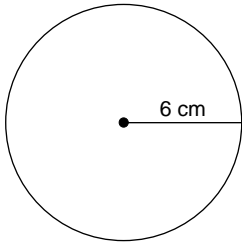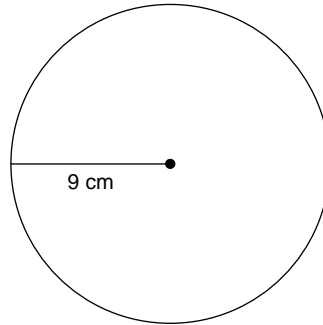
7 cm
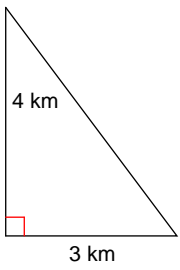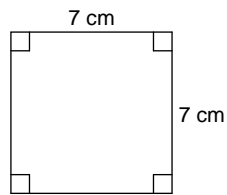
**Find the circumference of each circle.  Round your answer to the nearest tenth.**

101)



6 cm

102)



9 cm

**Graph the image of the figure using the transformation given.**
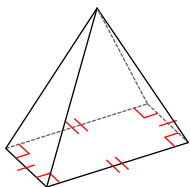
103)  rotation 180° about the origin



*D*
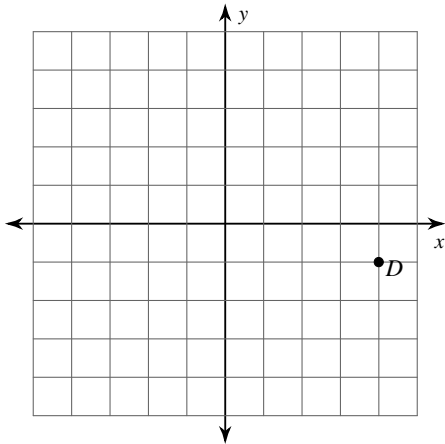
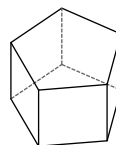104)  rotation 90° counterclockwise about the origin



*I*
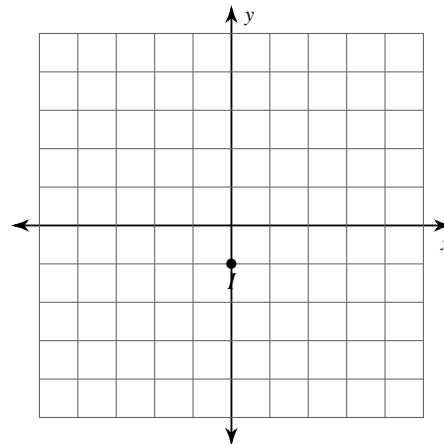
**Name each figure.**

105)



106)

**Find each square root.**
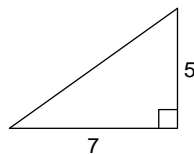
107) $\sqrt{0}$

108) $\sqrt{64}$

**Find each missing length to the nearest tenth.**
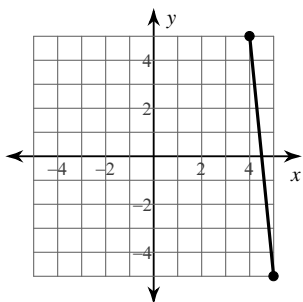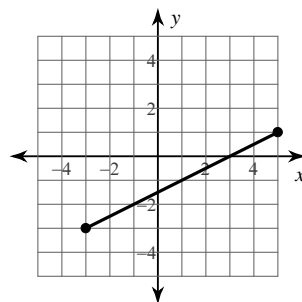
109)



110)



**Find the distance between each pair of points.**

111)



112)



**Simplify each expression.**

113) $(b + 2) - (3 + 5b)$

114) $(4v^4 + 3v^2) - (4v^2 + 5v^4)$

**Find each product.**

115) $4m(5m + 1)$

116) $4n^3(n + 4)$

# Answers to Level: 1

1) thousands

2) ten-thousandths

3) 600,000

4) 5,000

5) 8

6) 9

7) 16

8) 6

9) 7

10) 5

11) 1, 2, 4, 7, 14, 28

12) 1, 3, 5, 15

13) 10

14) 9

15) 12

16) 80

19) 30%

20) 73%

17) $\dfrac{1}{4}$

18) $\dfrac{3}{4}$

21) 9

22) 2

23) 8

24) 4

25) $8n$

26) $7 - 8k$
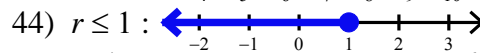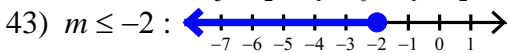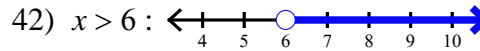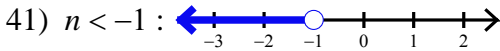
27) $\{-3\}$

28) $\{-8\}$

29) 6

30) 1

31) $\{-4\}$
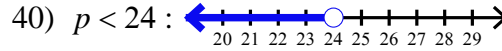
32) $\{2\}$

33) $4

34) $2

35) $\{-2\}$

36) $\{-1\}$

37) 

38) 

39) $k \geq -42$ : 

40) $p < 24$ : 

41) $n < -1$ : 

42) $x > 6$ : 

43) $m \leq -2$ : 

44) $r \leq 1$ : 
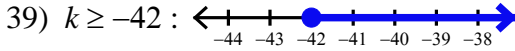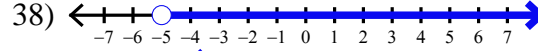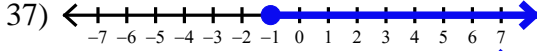
45) No

46) No

47) $3b^4$

48) $6v^6$

49) 340

50) 0.035

51) $5.475 \times 10^{-1}$

52) $1.19 \times 10^2$

53) No

54) No

55) $\{20\}$

56) $\{4.16\}$

57) 2

58) 3

59) 15

60) 7

61) 12 ft

62) 5 ft

63) 5.4%

64) 1.2%

65) 68.7

66) 6.2

67) 17.6% increase

68) 87.5% increase

69) $130.46

70) $44.06

71) $34,117.00

72) $31,842.00

73) IV

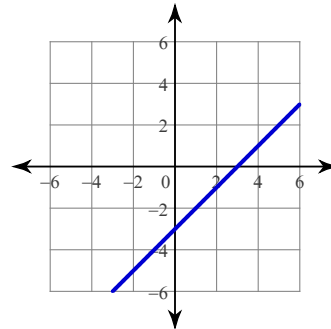74) x-axis

75) $(-1, 2)$

76) $(-4, -2)$
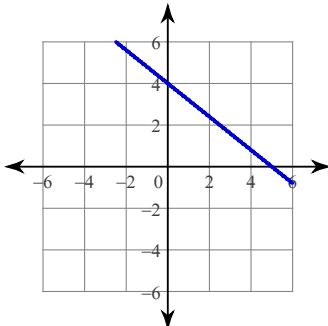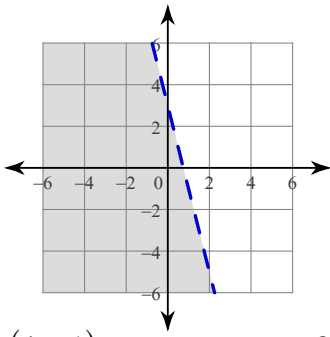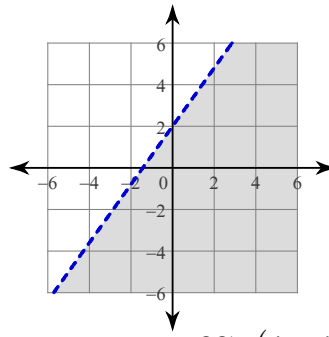
77) $-2$

78) $\dfrac{1}{4}$

79) 

80) 

81) $y = -5x$

82) $y = \dfrac{7}{3}x - 2$

83)

84)

85) $(1, -4)$

86) $(4, -1)$  
87) $(-4, -5)$  
88) $(4, -4)$  
89) 6 geese and 20 goats  
90) 4 pens and 4 pencils  
91) 30°  
92) 60°  
93) supplementary  
94) supplementary  
95) acute isosceles  
96) obtuse isosceles  
97) Parallelogram  
98) Rectangle  
99) 6 km²  
100) 49 cm²  
101) 37.7 cm  
102) 56.5 cm  
103)  
104)  
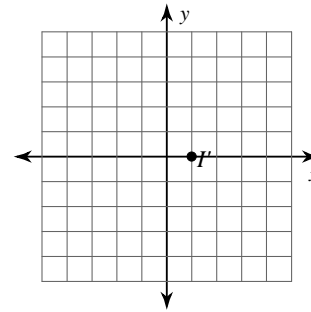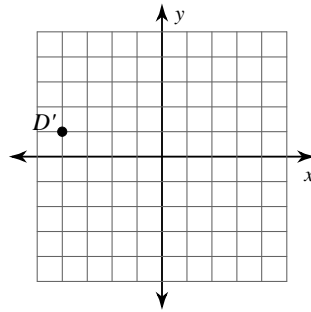
105) rectangular pyramid  106) pentagonal prism  107) 0  108) 8  
109) 7.3  110) 8.6  111) 10.05  112) 8.944  
113) $-4b - 1$  114) $-v^4 - v^2$  115) $20m^2 + 4m$  116) $4n^4 + 16n^3$