

## Key Worksheet 1

### Reading/Writing Whole Numbers

1) seven million

7,000,000

2) five million, forty thousand

5,040,000

3) four million, thirty

4,000,030

4) four hundred million, four

400,000,004

5) four hundred million

400,000,000

6) nine thousand, one hundred ninety-one

9,191

7) five hundred forty-eight million, eight hundred ninety-eight thousand, seven hundred eighty-three

548,898,783

8) 40,000,090

forty million, ninety

9) 930,010

nine hundred thirty thousand, ten

10) 2,482

two thousand, four hundred eighty-two

11)  $(30 - 3) \div 3$

9

12)  $(21 - 5) \div 8$

2

13)  $1 + 7^2$

50

14)  $5 \times 4 - 8$  12

15)  $9 \times (3 + 3) \div 6$

9

16)  $(9 + 18 - 3) \div 8$

3

17)  $9 + 6 \div (8 - 2)$

10

18)  $4(4 \div 2 + 4)$

24

19)  $7 \times 9 - 7 - 3 \times 5$

41

20)  $8 - 1 - (18 - 2) \div 8$

5

## Key Worksheet 2

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) 39, 6

3

7) 24, 28

4

8) 40, 10

10

9)  $39v, 30uv$

$3v$

10)  $35n^2m, 21m^2n$

$7nm$

11) 10, 3

30

12) 14, 6

42

13) 15, 6

30

14) 15, 20

60

15) 27, 18

54

16.  $7x + 31x$

$38x$

17.  $-2(7 - n) + 4$

$-10 + 2n$

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

$2p - 1$

19.  $-7(k - 8) + 2k$

$-5k + 56$

20.  $3 - 8(7 - 5n)$

$-53 + 40n$

$$1) (-12) + 7$$
$$-5$$

$$2) (-10) + (-7)$$
$$-17$$

$$3) (-6) + 12$$
$$6$$

$$4) 8 + 7$$
$$15$$

$$5) 3 + 4$$
$$7$$

$$6) (-45) + 9$$
$$-36$$

$$7) (-1) + (-46)$$
$$-47$$

$$8) (-30) + 10$$
$$-20$$

$$9) (-34) + 50$$
$$16$$

$$10) 38 + (-5)$$
$$33$$

**Find each difference.**

$$11) 2 - (-2)$$
$$4$$

$$12) (-1) - 10$$
$$-11$$

$$13) 8 - 7$$
$$1$$

$$14) (-8) - (-6)$$
$$-2$$

$$15) 11 - 4$$
$$7$$

$$16) 48 - (-31)$$
$$79$$

$$17) 18 - 41$$
$$-23$$

$$18) (-38) - 30$$
$$-68$$

$$19) (-1) - (-3)$$
$$2$$

$$20) (-1) - (-40)$$
$$39$$

$$21) 8 \times -12$$

-96

$$22) -6 \times -10 \times -8$$

-480

$$23) 6 \times 6 \times -2$$

-72

$$24) 9 \times 9 \times -5$$

-405

$$25) 7 \times 5 \times -5$$

-175

$$26) -168 \div -12$$

14

$$27) -8 \div 2$$

-4

$$28) \frac{-105}{7}$$

-15

$$29) \frac{-4}{-1}$$

4

$$30) \frac{-10}{-2}$$

5

$$31) \frac{-144}{12}$$

-12

## Key Worksheet 4

### Fractions

$$1) \frac{5}{4} - \frac{3}{4} = \frac{1}{2}$$

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

$$3) 6 - \frac{1}{6} = \frac{35}{6}$$

$$4) \frac{1}{2} - \frac{1}{2} = 0$$

$$5) \left(-\frac{4}{5}\right) - \frac{7}{8} = -\frac{67}{40}$$

$$6) \frac{1}{3} - \left(-\frac{5}{3}\right) = 2$$

$$7) \left(-\frac{1}{3}\right) + \frac{3}{8} = \frac{1}{24}$$

$$8) \left(-\frac{10}{7}\right) + \frac{1}{6} = -\frac{53}{42}$$

$$9) \left(-2\frac{5}{6}\right) - \left(-1\frac{1}{4}\right) = -1\frac{7}{12}$$

$$10) \left(-3\frac{5}{8}\right) - 4\frac{2}{5} = -8\frac{1}{40}$$

$$11) -\frac{5}{4} \cdot \frac{1}{3} = -\frac{5}{12}$$

$$12) \frac{8}{7} \cdot \frac{7}{10} = \frac{4}{5}$$

$$13) \frac{4}{9} \cdot \frac{7}{4} = \frac{7}{9}$$

$$14) -\frac{2}{3} \cdot \frac{5}{4} = -\frac{5}{6}$$

$$15) -2 \cdot \frac{3}{7} = -\frac{6}{7}$$

$$16) -2 \frac{2}{3} \cdot 4 \frac{1}{10} = -10 \frac{14}{15}$$

$$17) \frac{-1}{5} \div \frac{7}{4} = -\frac{4}{35}$$

$$18) \frac{-1}{2} \div \frac{5}{4} = -\frac{2}{5}$$

$$19) \frac{-3}{2} \div \frac{-10}{7} = \frac{21}{20}$$

$$20) \frac{1}{2} \div \frac{8}{7} = \frac{7}{16}$$

$$21) \frac{-9}{5} \div 2 = -\frac{9}{10}$$

$$22) -3 \frac{5}{9} \div 3 = -1 \frac{5}{27}$$

Key Worksheet 5

Adding/Subtracting Decimals

Evaluate each expression.

1)  $19.4 + 24.2$

43.6

3)  $(-9.1) + 3.5$

-5.6

5)  $9.5 - (-19.3)$

28.8

7)  $8.7 + 3.8 + 12.3$

24.8

9)  $3.4 - 5 - 10.4$

-12

11)  $-5.5 \times -4.87$

26.785

13)  $0.2 \times -1.6$

-0.32

15)  $-4.6 \times -7.2$

33.12

17)  $-1.5 \times -7.1$

10.65

19)  $-7.5 \times 9 \times -8.3$

560.25

21)  $3.2 \times 8.7 \times -1.1$

-30.624

2)  $(-14.8) - (-9.7)$

-5.1

4)  $0.96 - 8.5$

-7.54

6)  $3.4 - (-12.1)$

15.5

8)  $(-13.6) + 12 - (-15.5)$

13.9

10)  $(-5.6) - (-12.6) + (-6.6)$

0.4

12)  $1.7 \times -2.1$

-3.57

14)  $1.7 \times -3.1$

-5.27

16)  $-5.928 \times -11.6$

68.7648

18)  $7.8 \times 5.1$

39.78

20)  $-4.04 \times -9 \times 3$

109.08

22)  $8.1 \times 8.6 \times -5.2$

-362.232

## Key Worksheet 6

### Percents

1) 115.9%

1.159

2) 9%

0.09

3) 0.452

45.2%

4) 0.006

0.6%

5) 20%

$\frac{1}{5}$

6) 80%

$\frac{4}{5}$

7)  $2\frac{1}{10}$

210%

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

37.5%

9) From 33 to 47

42.4% increase

10) From 92 to 9.7

89.5% decrease

11) Cost of a sled: \$99.50  
Markup: 95%

\$194.03

12) Original price of a book: \$18.50  
Discount: 45%

\$10.18

13) Original price of an SUV: \$42,000.00  
Tax: 3%

\$43,260.00

14) 81 is 56% of what?

144.6

15) What percent of 137.4 is 96?

69.9%

16) 30% of 117 is what?

35.1

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

{5}

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

{33.33}

19) 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

20) 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

## Key Worksheet 7

### Algebra

1) The Commutative

2) The Associative

3) Commutative (of addition & multiplication)

4) Associative (of addition & multiplication)

5)  $-6k + 7k = k$

6)  $12r - 8 - 12 = 12r - 20$

7)  $n - 10 + 9n - 3 = 10n - 13$

8)  $-4x - 10x = -14x$

9)  $-10(1 - 9x) + 6(x - 10) = 70 + 96x$

10)  $5(-2n + 4) + 2(n + 3) = 8n + 26$

11)  $-3(10b + 10) + 5(b + 2) = 25b - 20$

12)  $-7(n + 3) - 8(1 + 8n) = 71n - 29$

13. **108 in = 9 ft**

14. **33 ft = 11 yd**

15. **3 ft = 36 in**

16. **6 yd = 18 ft**

17. **10560 ft = 2 mi**

18. **8800 yd = 5 mi**

19. **500 cm = 5 m**

20. **10 km = 10,000 m**

21. **2000 g = 2 kg**

22. **9 L = 9,000 ml**

23. **2.25 gal = 9 qt**

24. **312 oz = 2.4375 gal**



Key - Worksheet 8

Equations

1)  $v - 10 = -9$  {1}

2)  $x - 3 = 4$  {7}

3)  $\frac{x}{5} = 2$  {10}

4)  $-13m = -377$  {29}

5)  $6 = m - 16$  {22}

6)  $3p - 2 = -29$   
{-9}

7)  $1 - r = -5$   
{6}

8)  $-9 + \frac{n}{4} = -7$   
{8}

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

10)  $-7 + 4r = -15$   
{-2}

11)  $-6n - 2n = 16$   
{-2}

12)  $4x + 6 + 3 = 17$   
{2}

13)  $18 = 3(3x - 6)$   
{4}

14)  $37 = -3 + 5(x + 6)$   
{2}

15)  $8(4k - 4) = -5k - 32$   
{0}

16)  $0.4x + 3.9 = 5.78$   
{4.7}

17)  $\frac{v}{10.44} - 2.9 = -4.422$   
{-15.88968}

18)  $-8.38v + 10.71 = 131.382$   
{-14.4}

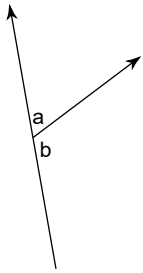
19)  $-3.8 - 13.4p = -460.606$   
{34.09}

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

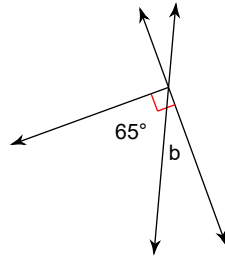
Key - Worksheet 9

Geometry

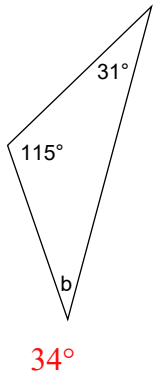
1) supplementary



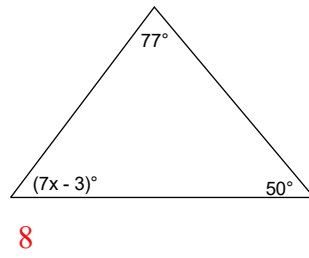
2)  $25^\circ$



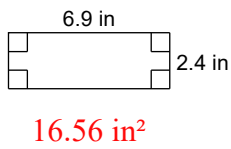
3)



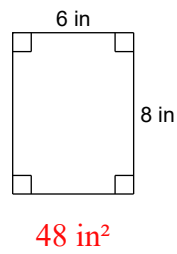
4)



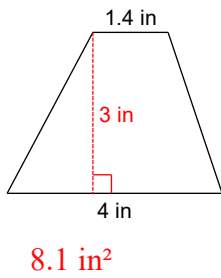
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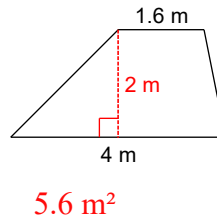
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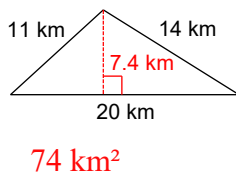
7)



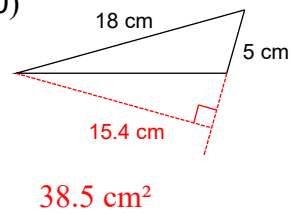
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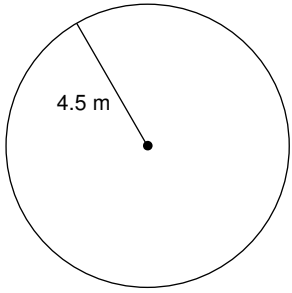
9)



10)

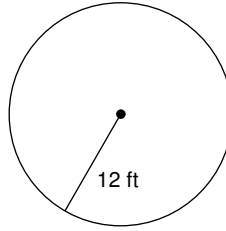


11)



28.3 m

12)

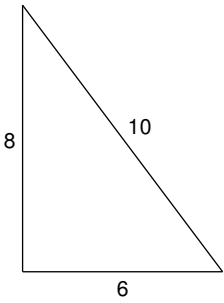


452.4 ft<sup>2</sup>

13) area =  $4\pi$  in<sup>2</sup>

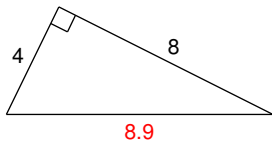
4 in

14)

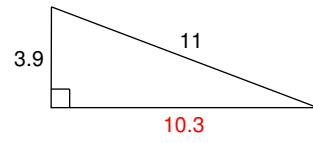


Yes

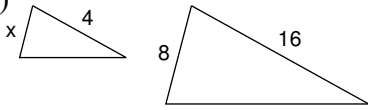
15)



16)

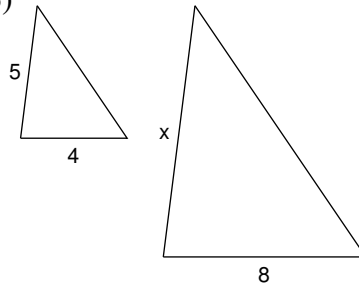


17)



2

18)



10

## Key - Worksheet 10

### Polynomials

1)  $-10k^2 + 7$

quadratic binomial

2)  $5p^3 + 2p^2 - 7$

cubic trinomial

3)  $6n$

linear monomial

4)  $(5 + 5n^3) - (1 - 3n^3)$

$8n^3 + 4$

5)  $(6a - 3a^2) + (2a^2 - 3a)$

$-a^2 + 3a$

6)  $(x^2 - x) + (8x - 2x^2)$

$-x^2 + 7x$

7)  $7x(6x + 4y)$

$42x^2 + 28xy$

8)  $3n(n^2 - 6n + 5)$

$3n^3 - 18n^2 + 15n$

9)  $8r^2(4r^2 - 5r + 7)$

$32r^4 - 40r^3 + 56r^2$

10)  $2n^4 \times 5n^4$

$10n^8$

11)  $6x \times 6x^3$

$36x^4$

12)  $7v^3 \times 10u^3v^5 \times 8uv^3$

$560v^{11}u^4$

13)  $\frac{2n^2}{n}$

$2n$

14)  $\frac{14x^4y^7}{6x^5y^4}$

$\frac{7y^3}{3x}$

15)  $\frac{18x^8y^8}{10x^3}$

$\frac{9x^5y^8}{5}$

16)  $(7y^4)^2 49y^8$

17)  $(3ab^4)^4$

$81a^4b^{16}$

18)  $(2x^4y^4)^3$

$8x^{12}y^{12}$

19) 0.000000786

$7.86 \times 10^{-7}$

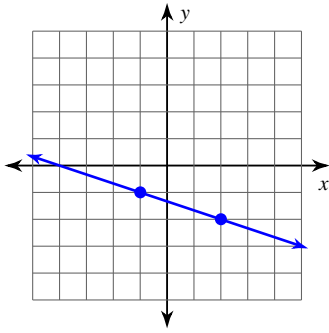
20)  $6.17 \times 10^3$

6170

# Key - Worksheet 11

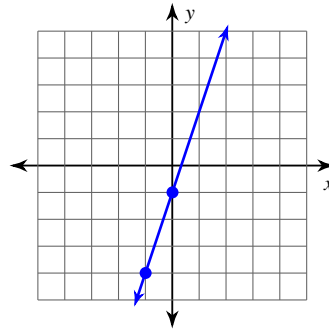
## Lines

1)



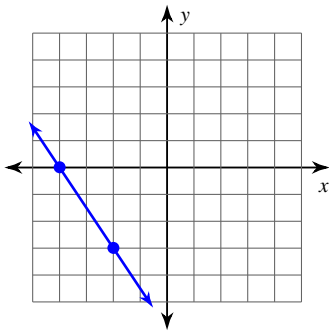
$$-\frac{1}{3}$$

2)



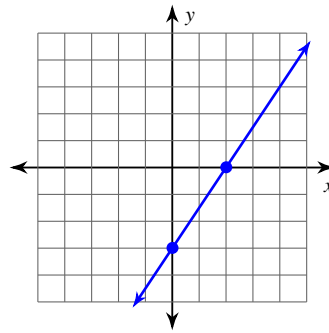
$$3$$

3)



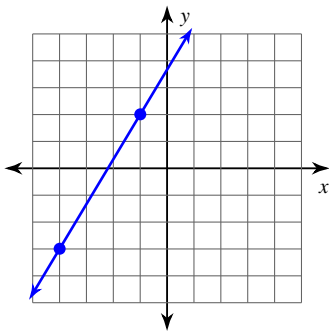
$$-\frac{3}{2}$$

4)



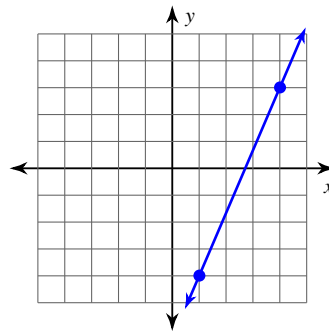
$$\frac{3}{2}$$

5)



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

6)



$$\frac{7}{3}$$

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

7) (8, 10), (-7, 14)

$$-\frac{4}{15}$$

8) (-3, 1), (-17, 2)

$$-\frac{1}{14}$$

9) (-20, -4), (-12, -10)

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

10) (-12, -5), (0, -8)

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

11) (-19, -6), (15, 16)

$$\frac{11}{17}$$

12) (-6, 9), (7, -9)

$$-\frac{18}{13}$$