	Name:_____ Per:____
Geometry Unit 1 – Expressions and Formulas Homefun	
Showing work is expected.	

Day 1 – Order of Operations

Order of Operations

1) $15 + ((11 + 2) + 3^2)$

2) $((10 - 5) + (12 \div 4)^2)$

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

4) $(6^2 + (14 \div 7 + 5^2))$

5) $12 + ((10 - 6) \times 5^2)$

6) $(6^2 + (20 \div 5 + 4^2))$

7) $((10 + 4) + (14 \div 7)^2)$

8) $((11 - 3)^2 + 7) - 2^2$

9) $2 + (10 \times (11 - 2)^2)$

10) $5 + (7 + (3 + 2)^2)$

11) $\sqrt{196} + 5^3 - 90 \div 10$ Explain in order the steps

12) Which of the following has a value of 40.

a) (9-1)5 b) 8(4) + 5

c) $20^2/10$ d) 14 – 6 + 12

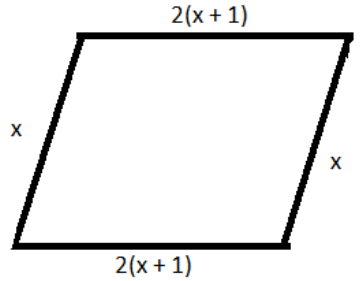
Unit 1 – Day 2 – Simplifying Expressions

What Happened to Ray Floob After He Fell Off the Empire State Building?

Simplify each expression below. Circle the letter of each answer. Then rearrange the circled letters in each section to make a word. Write the words in order in the boxes at the bottom of the page. You will find the answer to the title question.

(1) $3x + 2(5x - 7)$	S $20x - 3$	Y $20x - 18$
(2) $9 - 3(2x - 4)$	E $13x - 14$	N $5x + 11$
(3) $8x - 6(3 - 2x)$	T $5x + 15$	H $-6x + 21$
(4) $-5 + 5(x + 4)$		
(5) $4(6n + 9) - 10n$	O $14n + 36$	S $19n + 36$
(6) $14 - 3(4n - 1)$	E $-12n + 13$	N $-12n + 17$
(7) $-8n - 8(-4 - 2n)$	W $8n + 32$	T $8n - 1$
(8) $7k - 2(3k + 1) - 9$	L $2k + 7$	C $-13k + 34$
(9) $-6 + 5(8 - k) - 8k$	A $-7k + 37$	I $-7k + 30$
(10) $k + 1 - 4(2k - 9)$	K $2k - 4$	L $k - 11$
(11) $-10k - 3 + 2(5 + 6k)$		
(12) $8 + 9x + 4(11 - 2x)$	A $14x + 30$	R $6x + 52$
(13) $-4(-2x - 7) + 6x - 7$	H $3x + 21$	M $x + 52$
(14) $9 - 3(-4 + 3x) + 12x$	T $3x + 6$	I $14x + 21$
(15) $5(2y - 4) + 2(y + 9)$	A $12y - 4$	X $12y - 2$
(16) $-4(3u - 1) + 7(3 - 2u)$	W $-42u + 9$	Y $-42u + 42$
(17) $6(-5u + 1) - 3(4u - 12)$	S $13u - 12$	D $-5u + 25$
(18) $3(-u - 5) + 8(2u + 1)$	R $13u - 7$	A $-26u + 25$

19. Find the perimeter of the following parallelogram.



Unit 1 – Day 3 – Evaluating Expressions

What Is It Like to Live Under a Carpet?

Evaluate each formula below for the given values of the variables. Find each answer at the bottom of the page and cross out the letters above it. When you finish, the answer to the title question will remain.

1. $d = rt$ — where d is the distance traveled by an object moving at speed r in time t. Find d if $r = 52$ m/sec, $t = 8$ sec. _____ m

2. $V = \ell wh$ — where V is the volume of a rectangular solid with length ℓ, width w, and height h. Find V if $\ell = 12$ cm, $w = 5$ cm, $h = 3.5$ cm. _____ cm^3

3. $P = 2\ell + 2w$ — where P is the perimeter of a rectangle with length ℓ and width w. Find P if $\ell = 16$ km, $w = 7.5$ km. _____ km

4. $d = \frac{1}{2}n(n - 3)$ — where d is the number of diagonals of a polygon with n sides. Find d if $n = 20$. _____ diagonals

5. $V = P(1 + rt)$ — where V is the value of an investment of P dollars, invested at simple interest rate r for time t. Find V if $P = \$500$, $r = .08$ per year, $t = 3$ years. $ _____

6. $s = 4.9t^2$ — where s is the distance in meters a free-falling object travels in t seconds. Find s if $t = 4$ sec. _____ m

7. $P = I^2R$ — where P is the power in an electrical circuit with current I and resistance R. Find P if $I = 12$ amperes, $R = 2$ ohms _____ watts

8. $A = 2w^2 + 4hw$ — where A is the surface area of a square prism with a square base of side w and with height h. Find A if $w = 7$ cm, $h = 10$ cm _____ cm^2

LO	VE	ST	AR	RY	RU	DE	LE	GG	ET	ON	ED	UP
288	276	620	210	366	82.6	378	170	52	78.4	416	194	47

9. Choose the correct solution given $(b-2)^2 + a^2$ with a = 6, b = 7

a) 22 c) 37
b) 44 d) 61

10. Create an expression that's answer is 2x + 10y using combining like terms and or distributive property.
(for example: x+ 12y- 2y + x)

THE DISTANCE FORMULA

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

Unit 1 – Day 4 – Distance Formula

Find the distance between each pair of points.

All answers should be in simplified radical form!!

1) (1,2) (3,4)

2) (-6,0) (-2,0)

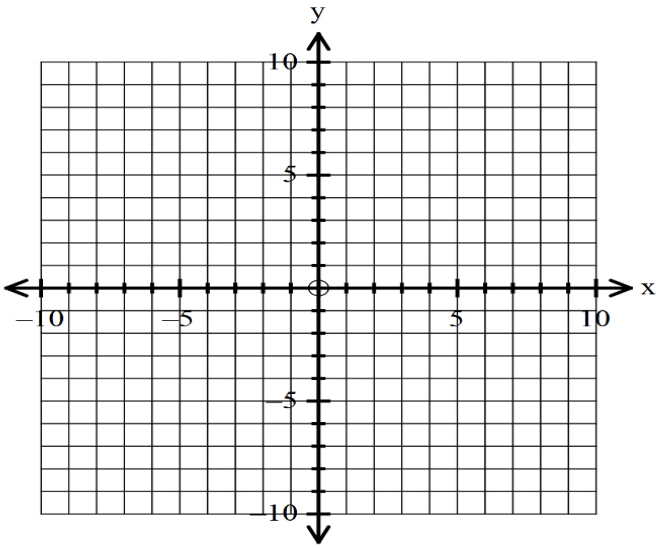
3) (5,6) (-3,1)

4) (-6,-4) (6,-8)

5) (-3,-2) (3,1)

6) Snoop and Dr. Dre are going to hike from Cedar Creek Cave to the Ford Nature Center. Cedar Creek Cave is located 3 miles west of the ranger's station. The Ford Nature Center is located 2 Miles east and 4 Miles north of the ranger's station. Rangers station is located at the origin.

a. Draw a diagram to represent the situation! Use the Graph. What is the distance between Cedar Creek Cave and Ford Nature Center?



7) Steven draws a line that is 13 units long. If (-4,1) is one endpoint of the line, which of the following might be the other endpoint?

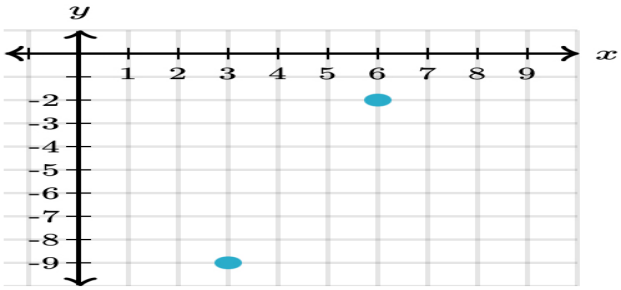
a) **(9, 14)**

b) **(3, 7)**

c) (1, 13)

d) (5, 12)

8) What is the distance between the following points?



Choose 1 answer:

(A) 9

(B) 10

(C) $\sqrt{21}$

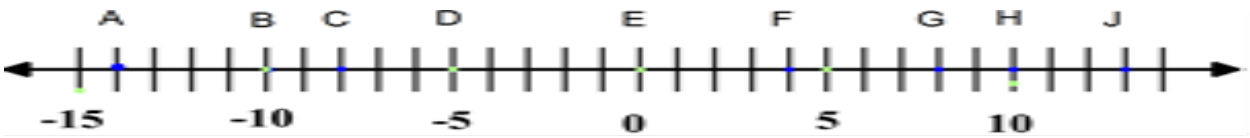
(D) $\sqrt{58}$

Unit 1 – Day 5 – Midpoint Formula

$$\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$$

Refer to the number line below to find the midpoint to each segment.

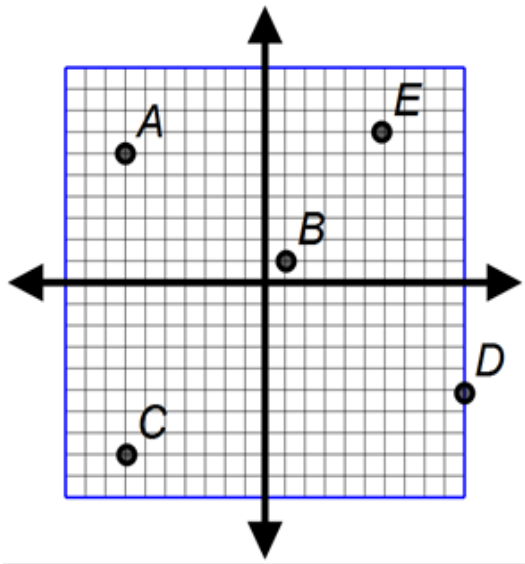
1) AB 2) CE 3) FA



4) Find the midpoint of the line segment with these endpoints (4, 6) and (9,3).

A) (-2.5, 1.5) C) (6.5, 4.5)

B) (14, 0) D) (5, 6)



Refer to the coordinate plane below to find the midpoint to each segment.

5) BC

7) CD

6) AD

8) EB

Find the coordinates of the missing endpoint K if M is the midpoint of K***F***.

9) F (9, 6) M(4, 3)

10) F (−4, 8) M(1, −2)

11) F(−3,0) M(4,−5)

12) M is the midpoint of WZ. M(6, -5) and W(-2, 9), find Z.

A) Z(8, -14)

C) Z(14, -19)

B) Z (4, - 4)

D) Z(8, - 4)

13) Your friend Mark lives 4 miles North and 2 miles East of Reno High. Cameron is 5 miles South and 3 miles West of Reno High. Reno High is located at the origin. If they want to meet, determine the halfway point. First determine the coordinate of Mark and Cameron.