Name: _____ Date: _____

UNIT 7 **REVIEW**

COORDINATE GEOMETRY REVIEW!

	DISTANCE	SLOPE	MIDPOINT	DIRECTED LINE SEGMENTS
FORMULA				
KEY WORDS	• **CONGRUENT** • **EQUAL** • **CONGRUENT DIAGONALS**	• **PARALLEL** *(same slope)* • **PERPENDICULAR** *(negative reciprocal slope)* • **RIGHT ANGLES** *(perpendicular lines have negative reciprocal slopes)*	• **BISECT** • **INTERSECTION OF DIAGONALS**	• $k = \frac{1st\ number\ of\ ratio}{sum\ of\ ratio}$ • **RATIO!**

1) Answer the following questions (a-e) by circling (T)rue or (F)alse:

a) The diagonals of a square bisect each other **T or F**

b) Diagonals of a square do not bisect its angles. **T or F**

c) One way to prove a parallelogram is to show that one Pair of opposite sides are both congruent and parallel **T or F**

d) The only formula needed to prove a trapezoid is the Midpoint formula **T or F**

e) The diagonals of a rectangle, rhombus, and square form Perpendicular lines **T or F**

2) What are the coordinates of point *C* on the directed segment from $A(-8,4)$ to $B(10,-2)$ that partitions the segment such that $AC{:}CB$ is 2:1?

1) $(1,1)$ 2) $(-2,2)$ 3) $(2,-2)$ 4) $(4,0)$

3) The coordinates of the endpoints of $\overline{QS}$ are $Q(-9,8)$ and $S(9,-4)$. Point *R* is on $\overline{QS}$ such that *QR*:*RS* is in the ratio of 1:2. What are the coordinates of point *R*?

1) $(0,2)$ 2) $(3,0)$ 3) $(-3,4)$ 4) $(-6,6)$

4) The lines represented by the equations $y + \frac{1}{2}x = 4$ and $3x + 6y = 12$ are

1) the same line
2) parallel
3) perpendicular
4) neither parallel nor perpendicular

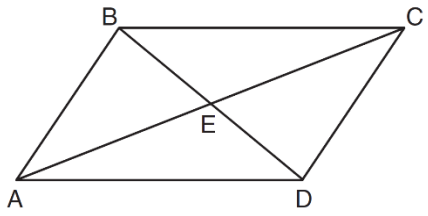
5) The lines $3y + 1 = 6x + 4$ and $2y + 1 = x - 9$ are

1) parallel
2) perpendicular
3) the same line
4) neither parallel nor perpendicular

6) The coordinates of the vertices of parallelogram *CDEH* are $C(-5,5)$, $D(2,5)$, $E(-1,-1)$, and $H(-8,-1)$. What are the coordinates of *P*, the point of intersection of diagonals $\overline{CE}$ and $\overline{DH}$?

1) $(-2,3)$
2) $(-2,2)$
3) $(-3,2)$
4) $(-3,-2)$

7) In the diagram below, parallelogram *ABCD* has vertices $A(1,3)$, $B(5,7)$, $C(10,7)$, and $D(6,3)$. Diagonals $\overline{AC}$ and $\overline{BD}$ intersect at *E*.

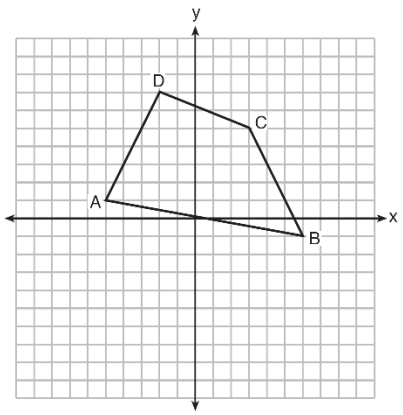


(Not drawn to scale)

What are the coordinates of point *E*?

1) $(0.5,2)$
2) $(4.5,2)$
3) $(5.5,5)$
4) $(7.5,7)$

8) In the diagram below, quadrilateral *ABCD* has vertices $A(-5,1)$, $B(6,-1)$, $C(3,5)$, and $D(-2,7)$.



What are the coordinates of the midpoint of diagonal $\overline{AC}$?

1) $(-1,3)$
2) $(1,3)$
3) $(1,4)$
4) $(2,3)$

9) The coordinates of *A* and *C* in rhombus *ABCD* are $A(8,2)$ and *C*(0,6). What is the equation of diagonal *BD*?

1) $y = 2x - 4$
2) $y = -\frac{1}{2}x + 2$
3) $y = -\frac{1}{2}x + 6$
4) $y = 2x - 12$

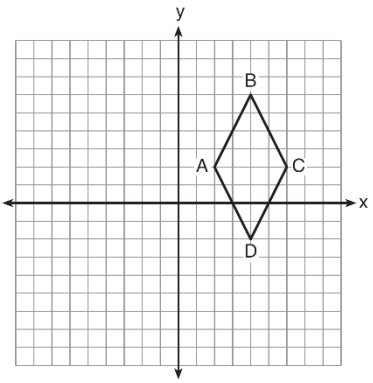
10) Square *MANY* has coordinates *M*(-11, 5) and *N*(5, -7). What is the equation of diagonal *AY*?

1) $y + 1 = \frac{4}{3}(x + 3)$
2) $y + 1 = -\frac{3}{4}(x + 3)$
3) $y - 6 = \frac{4}{3}(x - 8)$
4) $y - 6 = -\frac{3}{4}(x - 8)$

11) The coordinates of two vertices of square *ABCD* are $A(2,1)$ and $B(4,4)$. Determine the slope of side $\overline{BC}$.

12) Quadrilateral *ABCD* is graphed on the set of axes below.
Which quadrilateral best classifies *ABCD*?

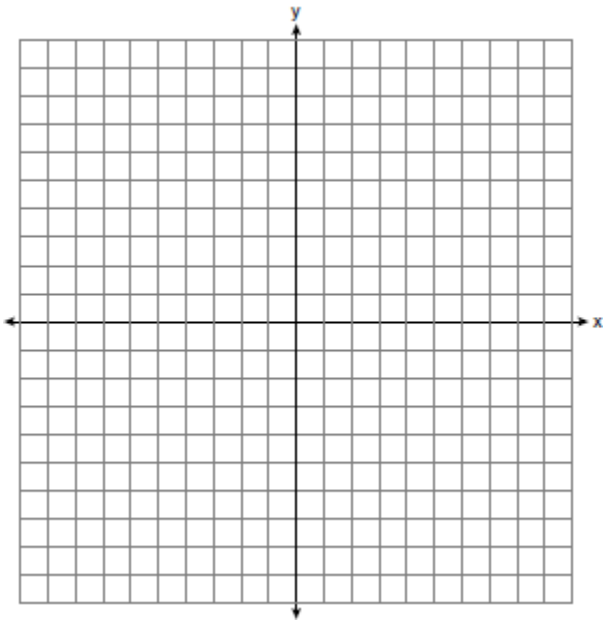
1) trapezoid
2) rectangle
3) rhombus
4) square



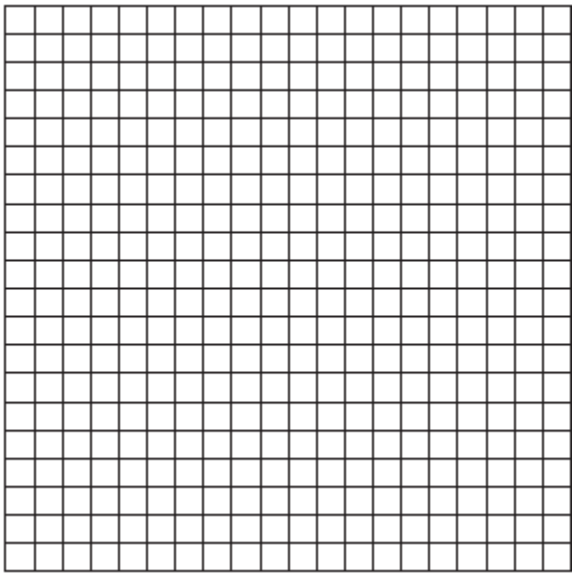
12) Triangle *ABC* has vertices $A(0,0)$, $B(3,2)$, and $C(0,4)$. The triangle may be classified as

1) equilateral 2) isosceles 3) right 4) scalene

13) Given: Triangle *RST* has coordinates $R(-1,7)$, $S(3,-1)$, and $T(9,2)$
Prove: $\triangle RST$ is a right triangle
[The use of the set of axes below is optional.]



14) The coordinates of quadrilateral *JKLM* are $J(1,-2)$, $K(13,4)$, $L(6,8)$, and $M(-2,4)$. Prove that quadrilateral *JKLM* is a trapezoid but *not* an isosceles trapezoid. [The use of the grid is optional.]



CONCLUSION: _____

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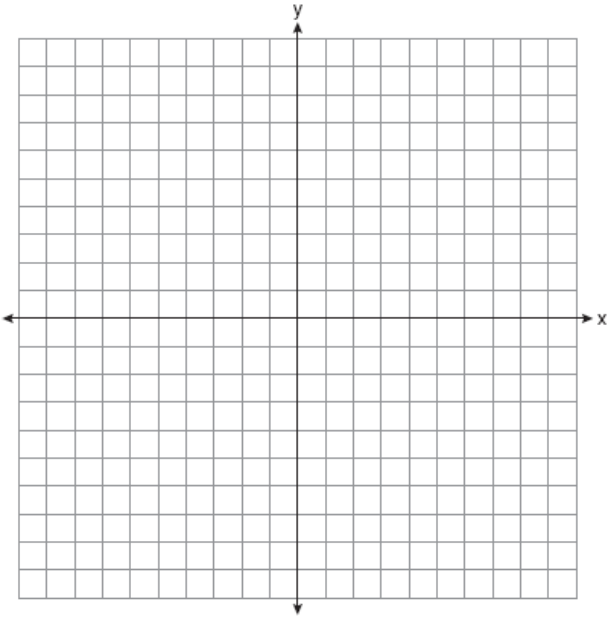
15) The vertices of quadrilateral *MATH* have coordinates $M(-4,2)$, $A(-1,-3)$, $T(9,3)$, and $H(6,8)$. Prove that quadrilateral *MATH* is a rectangle. [The use of the set of axes below is optional.]



CONCLUSION: _____

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HANG MAN GAME!

Directions:

- **Solve the questions on the review when you reach a smiley face check your answers.**
- If you get the correct answers, you may select a letter from the QR Code alphabet page.
- Scan the letter's QR code to find out if/where the letter is in the puzzle!
- If you pick a letter that is not in the puzzle, you must draw a body part on the hangman (head, right &left arm, torso, right and left leg, hands, feet, eyes, nose and mouth.)

Category: Who is the most famous person on Instagram in 2020?

Line 1: ___ ____ ____ ____ ____ ____ ____ ____ ____

Line 2: ___ ____ ____ ____ ____ ____ ____

Line 3: ___ ____ ____ ____ ____ ____

Line 4: ___ ____ ____ ____ ____ ____ ____ ____ ____ ____ ____ ____

HANG MAN GAME - ALPHABET

A	B	C	D	E	F
G	H	I	J	K	L
M	N	O	P	Q	R
S	T	U	V	W	X
Y	Z **FREE SPACE THERE ARE NO Z's.**				