Name: _____ Date: _____

UNIT 7 **REVIEW**

MORE COORDINATE GEOMETRY REVIEW!

1. The endpoints of one side of a regular hexagon are (-7, -2), and (-4, -4). What is the perimeter of the hexagon?

1) $\sqrt{13}$

2) $\sqrt{45}$

3) $6\sqrt{13}$

4) $6\sqrt{45}$

2. Point *Q* is on $\overline{MN}$ such that $MQ{:}QN = 2{:}3$. If *M* has coordinates $(3, 5)$ and *N* has coordinates $(8, -5)$, the coordinates of *Q* are

1) $(5, 1)$

2) $(5, 0)$

3) $(6, -1)$

4) $(6, 0)$

3. Point *P* divides $\overline{AB}$ so that $AP : PB = 4:1$. If $A(-9, -5)$ and $B(11, -2)$, the coordinates of P are

1) $\left(7, -2\frac{3}{5}\right)$

2) $\left(6, -\frac{1}{4}\right)$

3) $\left(-4, -3\frac{1}{4}\right)$

4) $\left(-5, -3\frac{3}{5}\right)$

4. What is an equation of the line that passes through the point $(2, 4)$ and is perpendicular to the line whose equation is $3y = 6x + 3$?

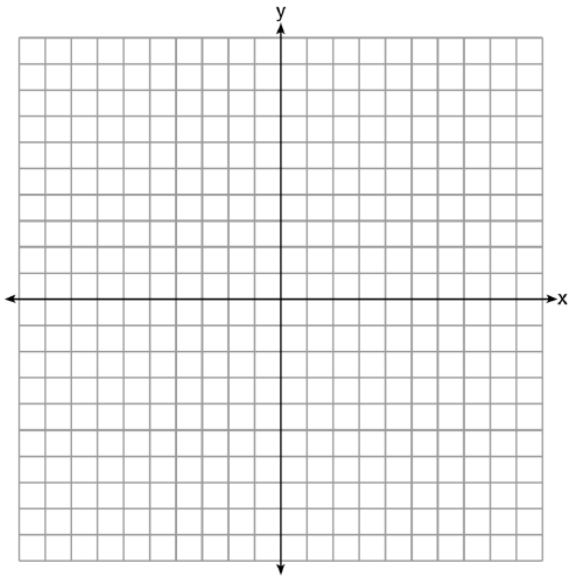
1) $y = -\frac{1}{2}x + 5$

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

3) $y = 2x - 6$

4) $y = 2x$

5. Quadrilateral *MATH* has vertices at $M(-2,-1)$, $A(2,3)$ and $T(4,1)$. Determine the coordinates of point H to create rectangle MATH.

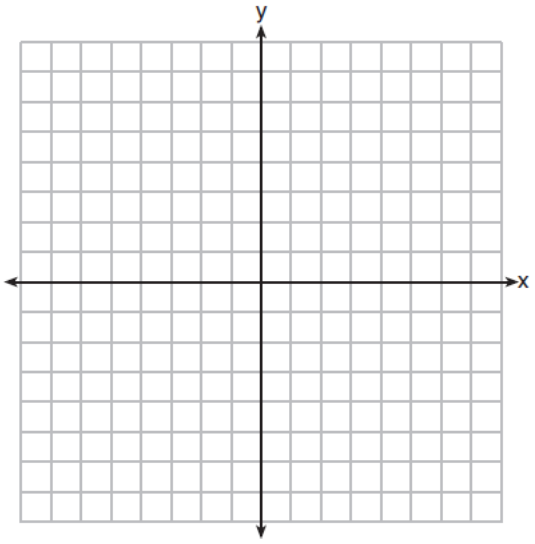


6. What is an equation of the line that passes through the point $(-2, 3)$ and is parallel to the line whose equation is $y = \frac{3}{2}x - 4$?

7. The coordinates of the endpoints of directed line segment *ABC* are $A(-8, 7)$ and $C(7, -13)$. If $AB{:}BC = 3{:}2$, the coordinates of *B* are

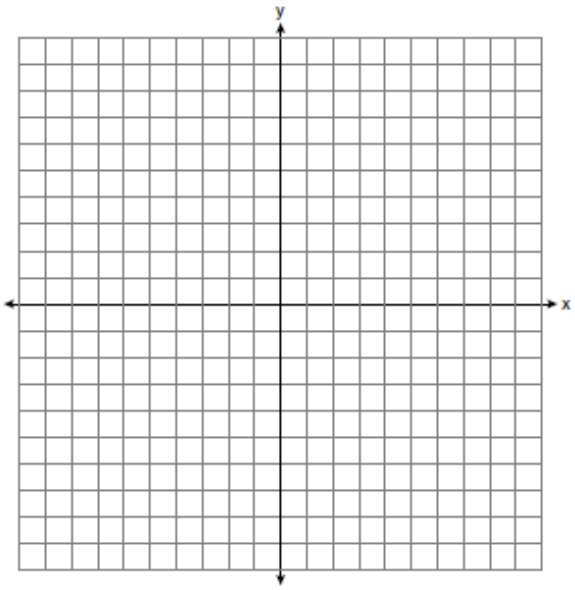
8. A triangle has vertices $J(-4,1)$, $E(-2,-3)$, $N(2,-1)$ Prove that $\triangle JEN$ is an isosceles right triangle.

[The use of the grid is optional.]



9. Quadrilateral *KATE* has vertices $K(1,5)$, $A(4,7)$, $T(7,3)$, and $E(1,-1)$.

a. Prove that *KATE* is a trapezoid. [The use of the set of axes is optional.]



b. Wisey defines an isosceles trapezoid as a trapezoid with congruent diagonals. Use Wisey's definition to prove that *KATE* is *not* an isosceles trapezoid.

10. Line segment *RW* has endpoints $R(-4, 5)$ and $W(6, 20)$. Point *P* is on $\overline{RW}$ such that $RP:PW$ is $1:4$. What are the coordinates of point *P*?

11. Jim is experimenting with a new drawing program on his computer. He created quadrilateral *TEAM* with coordinates $T(-2, 3)$, $E(-5, -4)$, $A(2, -1)$, and $M(5, 6)$. [The use of the grid is optional.]

Jim believes that he has created a rhombus and NOT a square. Prove that Jim is correct.