

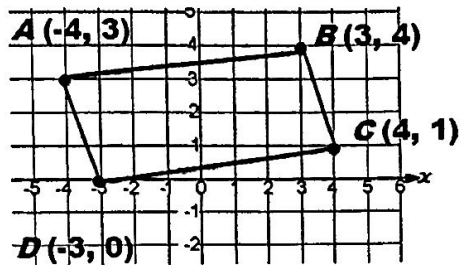
QUEST REVIEW!

Unit 5 Day 6

Name: _____

3. Coordinate Geometry

Calculate the perimeter and area of the rectangle below.



$$AB \quad 1^2 + 7^2 = c^2$$

$$\sqrt{50}$$

$$(7.07)$$

$$BC \quad 1^2 + 3^2 = c^2$$

$$\sqrt{10}$$

$$(3.16)$$

$$CD \quad 1^2 + 7^2 = c^2$$

$$\sqrt{50} = (7.07)$$

$$AD \quad 1^2 + 3^2 = c^2$$

$$\sqrt{10} (3.16)$$

Perimeter = 20.46

Area = 22.34

Find the midpoint of each line segment with the given endpoints.

4. $(-5, 3), (-3, -7)$

$$\frac{-5 + -3}{2} \quad \frac{3 + -7}{2}$$

$$(-4, -2)$$

5. $(9, -4), (1, -1)$

$$\frac{9 + 1}{2} \quad \frac{-4 + -1}{2}$$

$$(5, -2.5)$$

Find the other endpoint given one endpoint and the midpoint.

6. Endpoint $(6, -5)$ Midpoint $(-2, -7)$

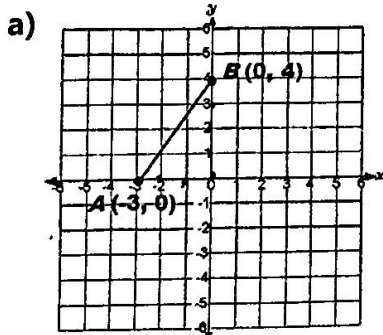
$$\frac{6 + x}{2} = -2 \quad \frac{-5 + y}{2} = -7$$

7. Endpoint $(4, -2)$, Midpoint $(3, -7)$

$$\frac{4 + x}{2} = 3 \quad \frac{-2 + y}{2} = -7$$

20. Distance between Points

Find the exact distance between the two points. SHOW ALL WORK!!



$$3^2 + 4^2 = c^2$$

$$\sqrt{25}$$

$$(5)$$

b) $(2, -5)$ and $(-12, 13)$

$$\frac{-12 - 2}{2} \quad \frac{13 - (-5)}{2}$$

$$14 \quad -18$$

$$14^2 + (-18)^2 = c^2$$

$$196 + 324 = c^2$$

$$\sqrt{520} = \sqrt{c^2}$$

$$(22.8)$$

Write the slope-intercept form of an equation that passes through the given point and is perpendicular to the graph of the given equation.

12. $(-6, 2), y = 6x - 1$ $m = 6$
 perp $m = -\frac{1}{6}$

13. $(-4, 3), y = \frac{1}{2}x + 2$ $m = \frac{1}{2}$
 perp. $m = -2$

$2 = -\frac{1}{6}(-6) + b$
 $2 = 1 + b$
 $1 = b$
 $y = -\frac{1}{6}x + 1$

$3 = -2(-4) + b$
 $3 = 8 + b$
 $-8 - 8$
 $-5 = b$
 $y = -2x - 5$

Find the slope of each line. Compare the slopes, and tell whether the lines for each pair of equations are parallel, perpendicular, or neither.

15. $y = \frac{2}{3}x + 1$ and $y = -\frac{3}{2}x - 2$ **Perpendicular**

16. $y = \frac{4}{5}x - 3$ and $y = \frac{4}{5}x$ **Parallel**

17. $y = \frac{1}{2}x - 3$ and $y = -\frac{1}{2}x - 3$ **Neither**

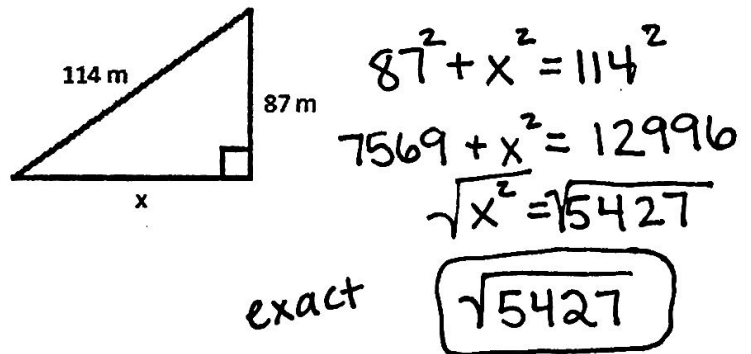
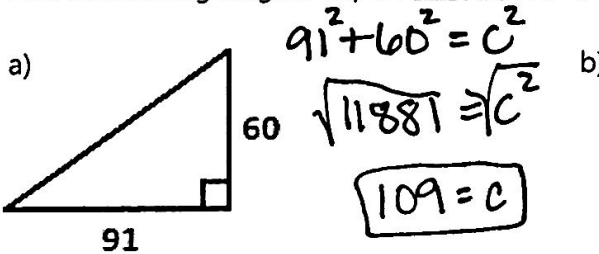
8. Which of the following represents the sides of a right triangle. Explain why or why not.

a) 7, 14, and 11 $7^2 + 11^2 = 14^2$
 $170 \neq 196$ **NO**

b) 13, 12, 5 $5^2 + 12^2 = 13^2$
 $169 = 169$ **YES**

19. Applications of the Pythagorean Theorem

Find the missing length. Report EXACT values!



8) Given $\triangle STU$, $S(1, -1)$, $T(3, 4)$, and $U(5, -1)$.

a) Calculate the length of each side, then classify the triangle by its sides and explain.

ST = $\frac{1-3}{-2} \frac{-1-4}{-5}$ $(-2)^2 + (-5)^2 = c^2$
 $\sqrt{29} = \sqrt{c^2}$
 5.4

SU = $\frac{1-5}{-4} \frac{-1-(-1)}{0}$ $(-4)^2 + 0^2 = c^2$
 $\sqrt{16} = \sqrt{c^2}$
 4

TU = $\frac{3-5}{-2} \frac{4-(-1)}{5}$ $(-2)^2 + 5^2 = c^2$
 $\sqrt{29} = \sqrt{c^2}$
 5.4

$\triangle STU$ is a Isosceles triangle because two of the sides are the same length