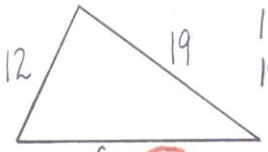
Math 2 Chapter 2 Practice Quiz #4

Answer Key 28

1. Use the Triangle Inequality Theorem to find the possible lengths of the third side of the triangle.

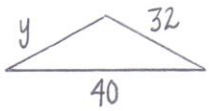
(a)



$19-12=7$
$19+12=31$

$7 < c < 31$

(b)

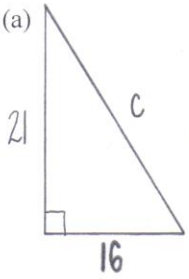


$40-32=8$
$40+32=72$

$8 < y < 72$

2. Find the length of third side of the triangle. Round to the nearest tenth. if necessary.

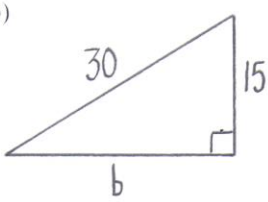
(a)



$c = 26.4$

$21^2+16^2=c^2$
$441+256=c^2$
$\sqrt{697}=\sqrt{c^2}$
$26.40075 \approx c$
26.4

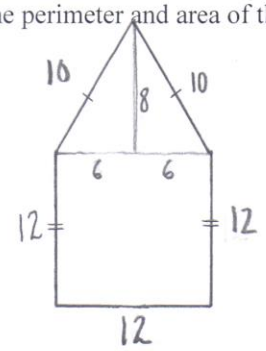
(b)

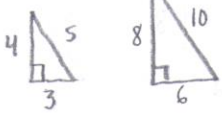


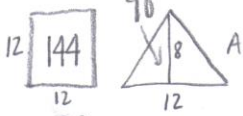
$b = 26.0$

$15^2+b^2=30^2$
$225+b^2=900$
$-225 \quad -225$
$\sqrt{b^2}=\sqrt{675}$
$b = 25.98076$
26.0

3. Find the perimeter and area of the figure below







$A = \frac{1}{2}(8)(12)$
$= 48$

$10+10+12+12+12 = 56$

Perimeter = 56 units

Area = 192 units^2

4. Use the arrow diagram to write a conditional statement (If…, then…). Then write the converse of the conditional statement. Assuming the conditional statement is true tell whether the converse is also true.

(a) A triangle has two congruent sides → triangle is isosceles

Conditional: If a Δ has 2 $\cong$ sides, then it is isosceles.

Converse: If a Δ is isosceles, then it has 2 $\cong$ sides.

TRUE or NOT ALWAYS TRUE

Raining after school → I will give you a ride home

(b)

Conditional: If it is raining after school, then I will give you a ride home.

Converse: If I give you a ride home, then it is raining after school

TRUE or NOT ALWAYS TRUE

can give a ride home even if it isn't raining.

5. Graph the equations.

(a) $y = \frac{3}{7}x - 5$

↑ slope ↑ yint

① plot y int first

② from there count the slope

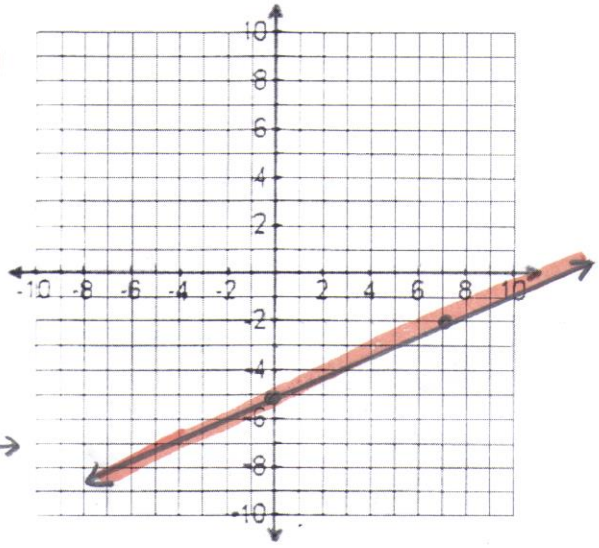
3 up / 7 right

or

+ slope

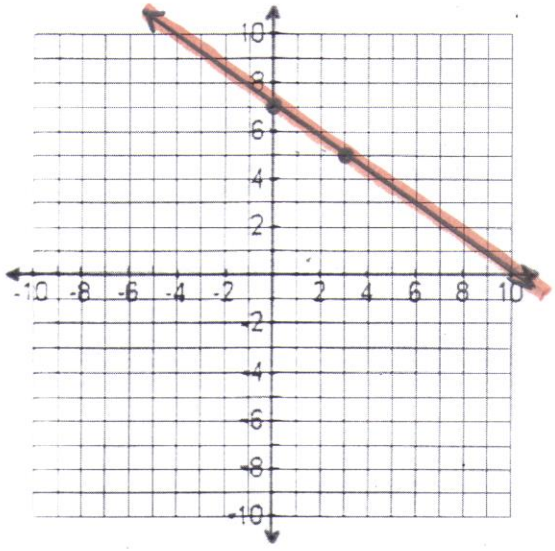
− slope

$x =$ $y =$



(b) $y = -\frac{2}{3}x + 7$

↑ slope ↑ yint



6. What is the slope of a line that is parallel to each line above? Perpendicular?

(a) $y = \frac{3}{7}x - 5$ (b) $y = -\frac{2}{3}x + 7$

* ∥ lines have the same slope
* ⊥ lines have opposite reciprocal slopes

$m = \frac{3}{7}$ Slope of line parallel $\frac{3}{7}$

Slope of line perpendicular $-\frac{7}{3}$

$m = -\frac{2}{3}$ Slope of line parallel $-\frac{2}{3}$

Slope of line perpendicular $+\frac{3}{2}$