

## Review 7.1-7.4

Name: Answer Key

Complete the following problems with your partner. Find your answer in the right hand column and write the corresponding word on the question number on the back to learn an OHS fact.

1. Bryon is measuring plants in a field. Of the first 25 plants he measures, 15 of them are smaller than a foot in height. If there are 4000 plants in the field, predict the total number of plants smaller than a foot in height.

$$\frac{\text{small}}{\text{total}} = \frac{15}{25} = \frac{x}{4000} \quad x = 2400$$

2. The angles of a triangle are in a 1:4:7 ratio. Find the measure of each angle.

$$\begin{aligned} 1x + 4x + 7x &= 180 & 1(15) &= 15^\circ \\ 12x &= 180 & 4(15) &= 60^\circ \\ x &= 15 & 7(15) &= 105^\circ \end{aligned}$$

3. The ratio of the width to the length of a rectangle is 4:5. If the width is  $y + 7$  and the length is 40, find the value of  $y$ .

$$\frac{\text{width}}{\text{length}} = \frac{4}{5} = \frac{y+7}{40}$$

$$\begin{aligned} 160 &= 5y + 35 & y &= 25 \\ 125 &= 5y & & \end{aligned}$$

4. Solve:

a.)  $\frac{x}{10} = \frac{2}{x+8}$

b.)  $\frac{y+30}{9} = \frac{11}{y}$

$$\begin{aligned} x^2 + 8x &= 20 \\ x^2 + 8x - 20 &= 0 \\ (x+10)(x-2) &= 0 \\ x &= -10 \quad x = 2 \end{aligned}$$

$$\begin{aligned} y^2 + 30y &= 99 \\ y^2 + 30y - 99 &= 0 \\ (y+33)(y-3) &= 0 \\ y &= -33 \quad y = 3 \end{aligned}$$

5. Decide if each statement is true or false. In similar polygons, corresponding sides are

congruent. *False (Proportional)*

In similar polygons, corresponding angles are

congruent. *True*

An example of a similarity statement is 2:3.

108 basketball

15°, 60°, 105° Rehak

$3\sqrt{6}$  six

False, False, True Barbie

2400 Mr.

a.) -6,4 Ken

b.) -3, 11

33 Belke

False, True, False than

All True Borrowman

a.) -10,2 Ms.

b.) -33, 3

$6\sqrt{3}$  has

25 Mrs.

All False Freischlag

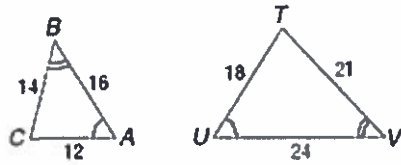
12°, 48°, 84° Llorens

*False (Scale factor 2/3) (Similarity Statement  $\Delta \sim \Delta$ )*

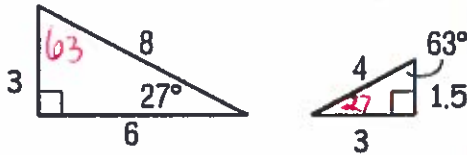
6. Are the polygons similar? If so, write the similarity statement.

YES AA~

$\Delta ABC \sim \Delta UVT$



7. Are the polygons similar? If so, state the scale factor.



YES AA~

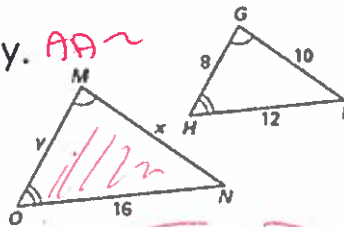
$\frac{6}{3} = \frac{2}{1}$

$\frac{3}{1.5} = \frac{2}{1}$

$\frac{8}{4} = \frac{2}{1}$

8. Find the value of x and y.

AA~



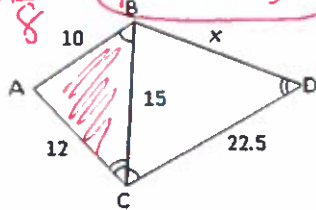
$\frac{16}{12} = \frac{4}{3}$

$\frac{4}{3} = \frac{x}{16}$

$\frac{4}{3} = \frac{y}{8}$

$y = 10 \frac{2}{3}$

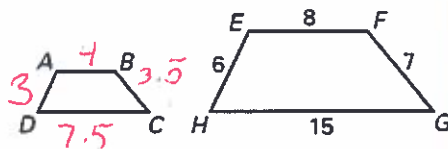
9. Find the value of x.



$\frac{\text{Shade}}{\text{Non}} = \frac{15}{22.5} = \frac{12}{x}$

$x = 18$

10. If AD is 3, DC is (Find) ABDC if ABCD ~ EFGH.



$DC = 7.5$

36

cat

4

twin

3.5

tattoo

No

two

Yes,  $\Delta ABC \sim \Delta UVT$  is

Yes, 2:3

heard

$x = 13 \frac{1}{3}, y = 10 \frac{1}{3}$

soccer

7.5

and

15

Mrs.

$x = 13 \frac{1}{3}, y = 10 \frac{2}{3}$

Pine

18

better

33.75

awesome

Yes, 2:1

Pelzer

Yes,  $\Delta ABC \sim \Delta VTU$  worst

Ms.

Rehak

is

better

than

#4

#2

#6

#9

#5

Mr.

Pelzer

and

Mrs.

Pine

#1

#7

#10

#3

#8