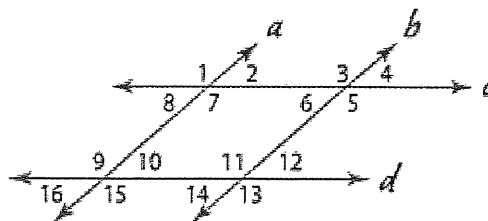


Similarity, Parallel Lines, Transversal Homework Quiz Review

In the figure, $a \parallel b$, $c \parallel d$, and $m\angle 4 = 57$.
Find the measure of each angle. (Lesson 3-2)



1. Find $m\angle 12$

2. Find $m\angle 11$

3. Name the angle pair relationship between $\angle 12$ and $\angle 6$ _____

4. Name the angle pair relationship between $\angle 10$ and $\angle 7$ _____

5. Name the angle pair relationship between $\angle 7$ and $\angle 15$ _____

6. Name the angle pair relationship between $\angle 1$ and $\angle 15$ _____

7. Find x , and then find the measure of each angle measure.



8.

SPORTS Thirty girls tried out for 15 spots on the basketball team. What is the ratio of open spots to the number of girls competing?

Solve the Proportion:

9.

$$\frac{x-3}{3} = \frac{5}{8}$$

10.

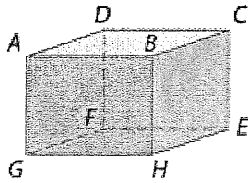
$$\frac{3x-1}{4} = \frac{2x+4}{5}$$

11. The ratio of the measures of three sides of a triangle is 2:5:4, and its perimeter is 165 units. Find the measure of each side of the triangle.

12. The ratios of the measures of three angles of a triangle are 4:6:8. Find the measure of each angle of the triangle.

13.

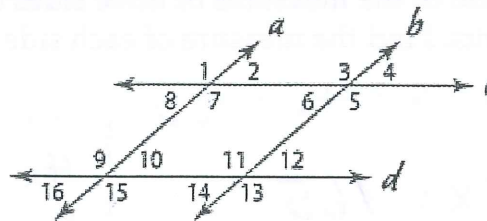
Refer to the figure to identify each of the following. (Lesson 3-1)



- a) a plane parallel to plane $ABCD$
 - b) a segment skew to \overline{GH} that contains point D
 - c) all segments parallel to \overline{HE}
- 14) **SPORTS** Jane jogs the same path every day in the winter to stay in shape for track season. She runs at a constant rate, and she spends a total of 39 minutes jogging. If the ratio of the times of the four legs of the jog is 3:5:1:4, how long does the second leg of the jog take her?
- 15) **CURRENCY** Your family is traveling to Mexico on vacation. You have saved \$500 to use for spending money. If 269 Mexican pesos is equivalent to 25 United States dollars, how much money will you get when you exchange your \$500 for pesos?

Similarity, Parallel Lines, Transversal Homework Quiz Review

key



In the figure, $a \parallel b, c \parallel d$, and $m\angle 4 = 57$.
Find the measure of each angle. (Lesson 3-2)

1. Find $m\angle 12$

2. Find $m\angle 11$

3. Name the angle pair relationship between $\angle 12$ and $\angle 6$ Alternate Interior Angles

4. Name the angle pair relationship between $\angle 10$ and $\angle 7$ Consecutive Interior Angles

5. Name the angle pair relationship between $\angle 7$ and $\angle 15$ Corresponding Angles

6. Name the angle pair relationship between $\angle 1$ and $\angle 15$ Alternate Exterior Angles

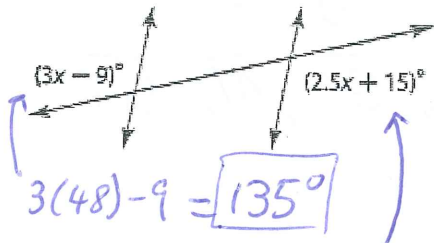
7. Find x , and then find the measure of each angle measure.

* Alternate Exterior Angle

$$3x - 9 = 2.5x + 15$$

$$0.5x = 24$$

$$\underline{\underline{x = 48}}$$



$$2.5(48) + 15 = \boxed{135^\circ}$$

8.

SPORTS Thirty girls tried out for 15 spots on the basketball team. What is the ratio of open spots to the number of girls competing?

$$\frac{\text{open spots}}{\text{girls competing}} \rightarrow \frac{15}{30} = \frac{1}{2}$$

1:2 ratio

Solve the Proportion:

9.

$$8(x-3) = 5(3)$$

$$\frac{x-3}{3} = \frac{5}{8}$$

$$8x - 24 = 15$$

$$8x = 39$$

$$\boxed{x = 4.875 \text{ or } \frac{39}{8}}$$

10.

$$\frac{3x-1}{4} = \frac{2x+4}{5}$$

$$5(3x-1) = 4(2x+4)$$

$$15x - 5 = 8x + 16$$

$$7x = 21 \quad \boxed{x = 3}$$

11. The ratio of the measures of three sides of a triangle is 2:5:4, and its perimeter is 165 units. Find the measure of each side of the triangle.

$$2x + 5x + 4x = 165$$

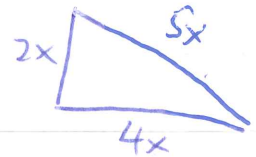
$$11x = 165$$

$$x = 15$$

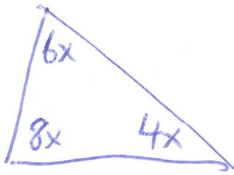
$$2x \rightarrow 2(15) = 30 \text{ units}$$

$$4x \rightarrow 4(15) = 60 \text{ units}$$

$$5x \rightarrow 5(15) = 75 \text{ units}$$



12. The ratios of the measures of three angles of a triangle are 4:6:8. Find the measure of each angle of the triangle.



$$8x + 6x + 4x = 180$$

$$18x = 180$$

$$x = 10$$

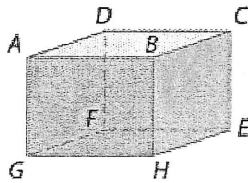
$$8x \rightarrow 8(10) = 80^\circ$$

$$6x \rightarrow 6(10) = 60^\circ$$

$$4x \rightarrow 4(10) = 40^\circ$$

13.

Refer to the figure to identify each of the following. (Lesson 3-1)



a) plane GFEH

b) segments \overline{AD} or \overline{DF}

c) segments \overline{BC} , \overline{AD} , \overline{GF}

a) a plane parallel to plane ABCD

b) a segment skew to \overline{GH} that contains point D

c) all segments parallel to \overline{HE}

- 14) **SPORTS** Jane jogs the same path every day in the winter to stay in shape for track season. She runs at a constant rate, and she spends a total of 39 minutes jogging. If the ratio of the times of the four legs of the jog is 3:5:1:4, how long does the second leg of the jog take her?

$$3x + 5x + 1x + 4x = 39$$

$$13x = 39$$

$$x = 3$$

$$\text{2nd leg} \rightarrow 5x \rightarrow 5(3) = 15 \text{ mins.}$$

- 15) **CURRENCY** Your family is traveling to Mexico on vacation. You have saved \$500 to use for spending money. If 269 Mexican pesos is equivalent to 25 United States dollars, how much money will you get when you exchange your \$500 for pesos?

pesos
dollar

$$\frac{269}{25} = \frac{x}{500}$$

$$25x = 269(500)$$

$$x = 5380 \text{ pesos}$$