

# Honors Geometry

## Homework Checklist

Unit 2

Name Sample Pd    

Make sure homework is put in the order it is on this handout. Staple this to your homework as its cover sheet.

Parallel lines cut by a transversal (2-1)

Solving Proportions (2-2)

Mid-segment of triangles (2-5)

Proportional parts in similar triangles (2-6)

Applications using similar triangles (2-7)

REMEMBER, NO WORK = NO CREDIT.

# Homework

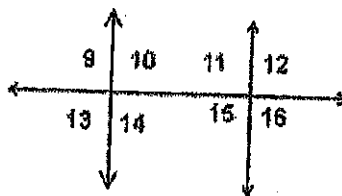
## Worksheet #3 (Parallel Lines Cut by a Transversal)

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Period: \_\_\_\_\_

Use the figure at the right to answer problems 1- 8.

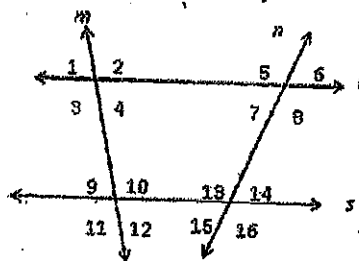
Classify each pair of angles as one of the following:

- (a) alternate interior angles      (b) corresponding angles  
 (c) alternate exterior angles      (d) vertical angles  
 (e) supplementary angles      (f) none



1. \_\_\_\_\_  $\angle 9$  &  $\angle 16$       5. \_\_\_\_\_  $\angle 9$  &  $\angle 11$   
 2. \_\_\_\_\_  $\angle 15$  &  $\angle 11$       6. \_\_\_\_\_  $\angle 9$  &  $\angle 15$   
 3. \_\_\_\_\_  $\angle 10$  &  $\angle 15$       7. \_\_\_\_\_  $\angle 13$  &  $\angle 14$   
 4. \_\_\_\_\_  $\angle 12$  &  $\angle 15$       8. \_\_\_\_\_  $\angle 14$  &  $\angle 11$

9.  $m\angle 2 = 97^\circ$      $m\angle 6 = 83^\circ$   
 $m\angle 3 =$  \_\_\_\_\_     $m\angle 5 =$  \_\_\_\_\_  
 $m\angle 10 =$  \_\_\_\_\_     $m\angle 7 =$  \_\_\_\_\_  
 $m\angle 9 =$  \_\_\_\_\_     $m\angle 16 =$  \_\_\_\_\_

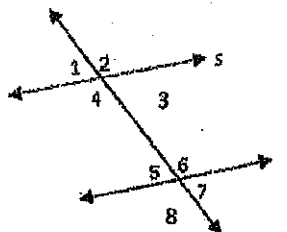


Find the value of  $x$  given that  $s \parallel t$

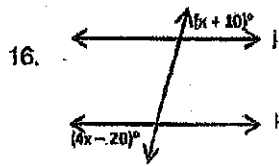
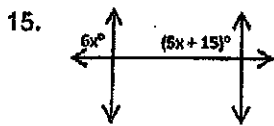
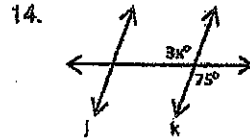
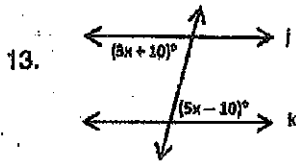
10.  $m\angle 4 = 77^\circ$ ,  $m\angle 8 = 4x + 57$

11.  $m\angle 3 = 5x + 13$ ,  $m\angle 5 = 53^\circ$

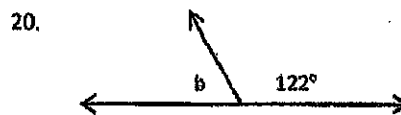
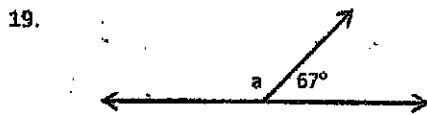
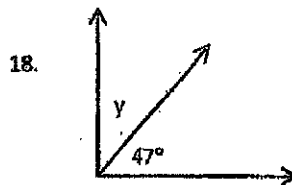
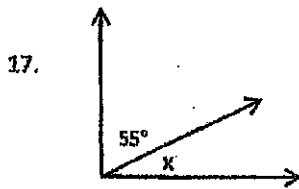
12.  $m\angle 1 = 6x - 5$ ,  $m\angle 7 = 115^\circ$



Find the value of  $x$  that makes  $l \parallel k$ .



Determine the missing angles.



# \* Answer Key

## 7.6 Practice - Proportions

Solve each proportion.

1)  $\frac{10}{a} = \frac{6}{8}$

3)  $\frac{7}{6} = \frac{2}{k}$

5)  $\frac{6}{x} = \frac{8}{2}$

7)  $\frac{m-1}{5} = \frac{8}{2}$

9)  $\frac{2}{9} = \frac{10}{p-4}$

11)  $\frac{b-10}{7} = \frac{b}{4}$

13)  $\frac{x}{5} = \frac{x+2}{9}$

15)  $\frac{3}{10} = \frac{a}{a+2}$

17)  $\frac{v-5}{v+6} = \frac{4}{9}$

19)  $\frac{7}{x-1} = \frac{4}{x-6}$

21)  $\frac{x+5}{5} = \frac{6}{x-2}$

23)  $\frac{m+3}{4} = \frac{11}{m-4}$

25)  $\frac{2}{p+4} = \frac{p+5}{3}$

27)  $\frac{n+4}{3} = \frac{-3}{n-2}$

29)  $\frac{3}{x+4} = \frac{x+2}{5}$

2)  $\frac{7}{9} = \frac{n}{6}$

4)  $\frac{8}{x} = \frac{4}{8}$

6)  $\frac{n-10}{8} = \frac{9}{3}$

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

10)  $\frac{9}{n+2} = \frac{3}{9}$

12)  $\frac{9}{4} = \frac{r}{r-4}$

14)  $\frac{n}{8} = \frac{n-4}{3}$

16)  $\frac{x+1}{9} = \frac{x+2}{2}$

18)  $\frac{n+8}{10} = \frac{n-9}{4}$

20)  $\frac{k+5}{k-6} = \frac{8}{5}$

22)  $\frac{4}{x-3} = \frac{x+5}{5}$

24)  $\frac{x-5}{8} = \frac{4}{x-1}$

26)  $\frac{5}{n+1} = \frac{n-4}{10}$

28)  $\frac{1}{n+3} = \frac{n+2}{2}$

30)  $\frac{x-5}{4} = \frac{-3}{x+3}$

Answer each question. Round your answer to the nearest tenth. Round dollar amounts to the nearest cent.

31) The currency in Western Samoa is the Tala. The exchange rate is approximately \$0.70 to 1 Tala. At this rate, how many dollars would you get if you exchanged 13.3 Tala?

32) If you can buy one plantain for \$0.49 then how many can you buy with

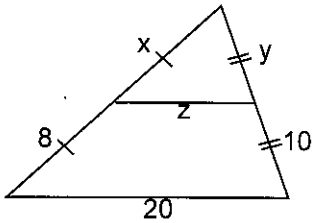
Honors Geometry  
 Unit 2 Midsegments of  $\Delta$ 's

Name \_\_\_\_\_

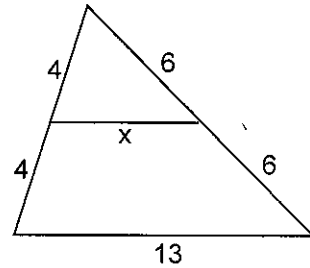
Date \_\_\_\_\_ Period \_\_\_\_\_

**Directions: Find the values of the variables. You must show all work to receive full credit. Figures are not drawn to scale.**

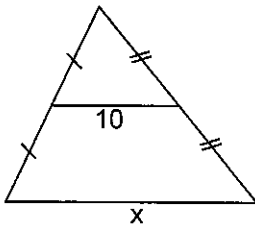
1.  $x = \underline{\hspace{1cm}}$   $y = \underline{\hspace{1cm}}$   $z = \underline{\hspace{1cm}}$



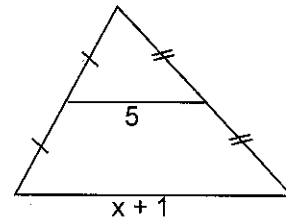
2.  $x = \underline{\hspace{1cm}}$



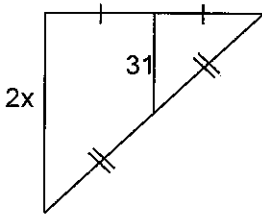
3.  $x = \underline{\hspace{1cm}}$



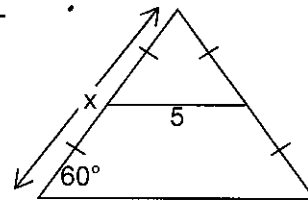
4.  $x = \underline{\hspace{1cm}}$



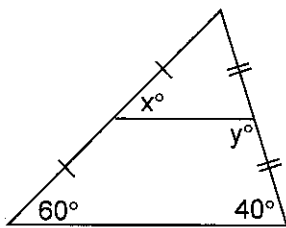
5.  $x = \underline{\hspace{1cm}}$



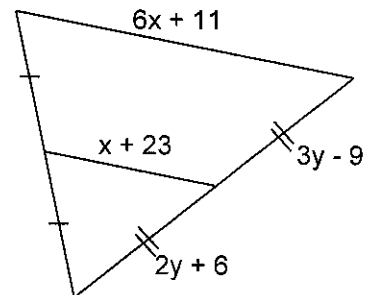
6.  $x = \underline{\hspace{1cm}}$



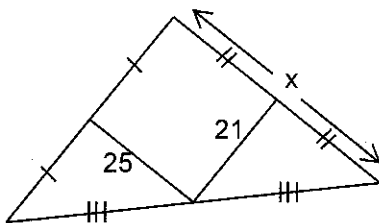
7.  $x = \underline{\hspace{1cm}}$   $y = \underline{\hspace{1cm}}$



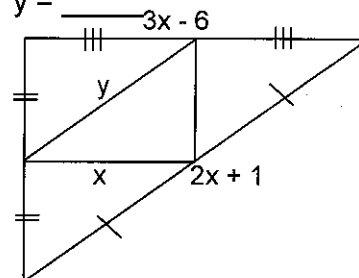
8.  $x = \underline{\hspace{1cm}}$   $y = \underline{\hspace{1cm}}$



9.  $x = \underline{\hspace{1cm}}$



10.  $x = \underline{\hspace{1cm}}$   $y = \underline{\hspace{1cm}}$

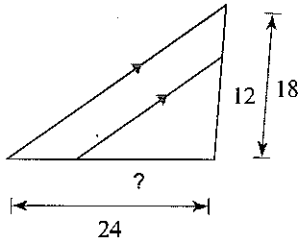


*Prop. Parts*

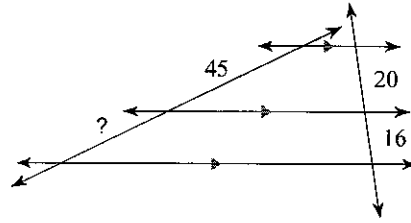
Assignment

Find the missing length indicated.

1)

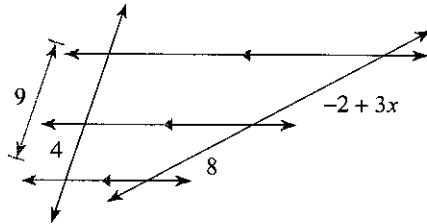


2)

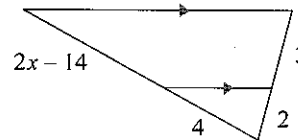


Solve for x.

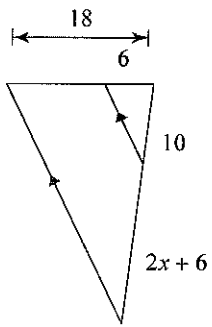
3)



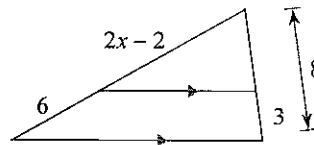
4)



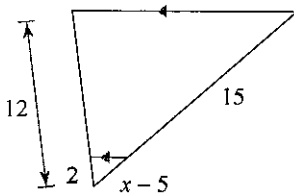
5)



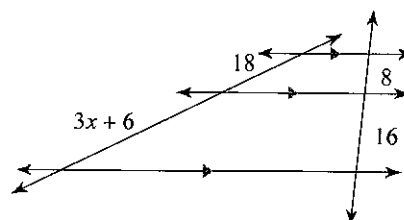
6)



7)

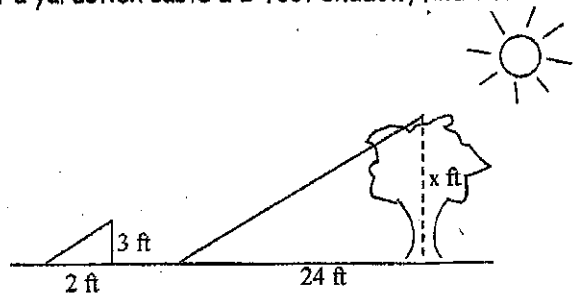


8)

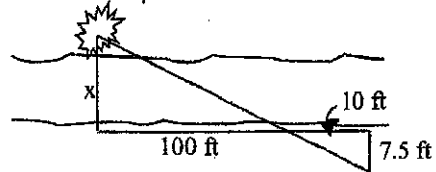


## Application Problems using Similar Triangles

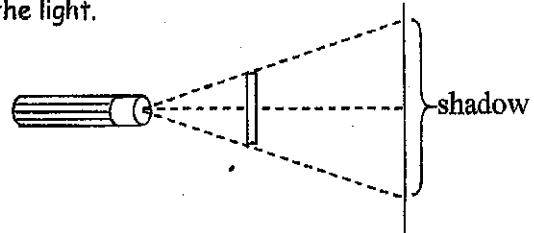
1. If a tree casts a 24-foot shadow at the same time that a yardstick casts a 2-foot shadow, find the height of the tree.



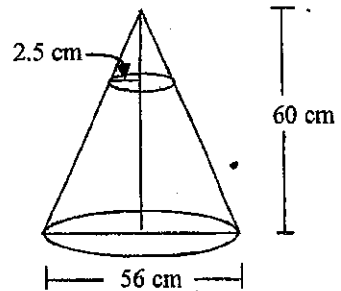
2. A bush is sighted on the other side of a canyon. Find the width of the canyon.



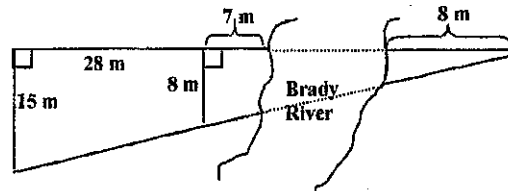
3. A 12-centimeter rod is held between a flashlight and a wall as shown. Find the length of the shadow on the wall if the rod is 45 cm from the wall and 15 cm from the light.



4. The cheerleaders at City High make their own megaphones by cutting off the small end of a cone made from heavy paper. If the small end of the megaphone is to have a radius of 2.5 cm, what should be the height of the cone that is cut off?

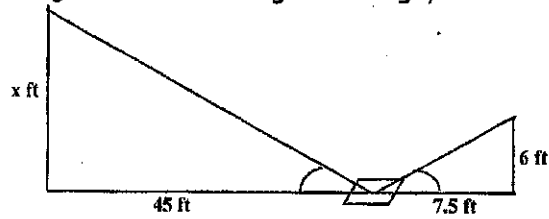


5. Find the width of the Brady River.

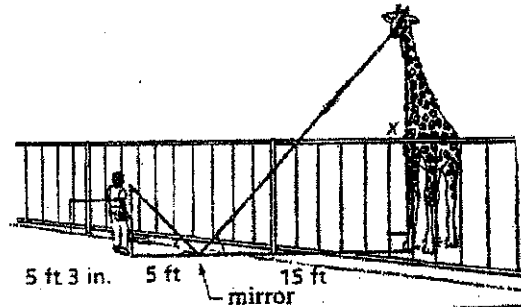


6. The foot of a ladder is 1.2 m from a fence that is 1.8 m high. The ladder touches the fence and rests against a building that is 1.8 m behind the fence. Draw a diagram, and determine the height on the building reached by the top of the ladder.

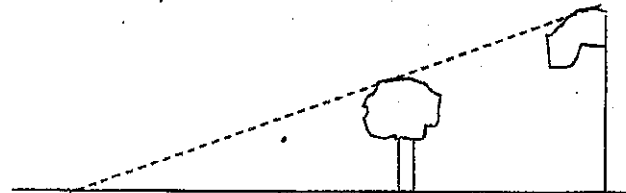
7. Ramon places a mirror on the ground 45 ft from the base of a geyser. He walks backward until he can see the top of the geyser in the middle of the mirror. At that point, Ramon's eyes are 6 ft above the ground and he is 7.5 ft from the mirror. Use similar triangles to find the height of the geyser.



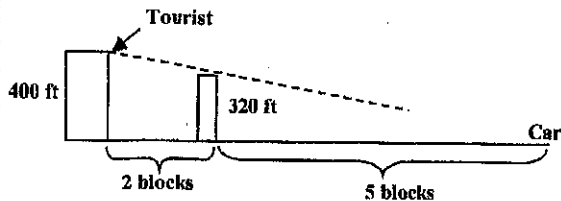
8. Find the height of the giraffe in the diagram below.



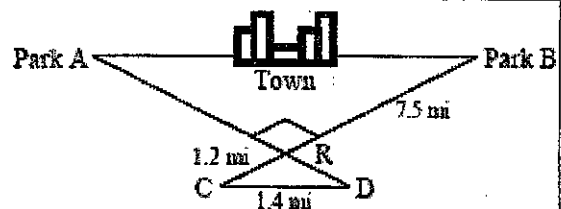
9. On level ground, the base of a tree is 20 ft from the bottom of a 48-ft flagpole. The tree is shorter than the pole. At a certain time, their shadows end at the same point 60 ft from the base of the flagpole. How tall is the tree?



10. A tourist on the observation deck of a building looks east, facing another building 320 ft high and two blocks from the first building. Her view is 400 ft above street level. Her car is parked five blocks east of the second building. If no other buildings intervene, can she see her car?



11. Mason Construction wants to connect two parks on opposite sides of town with a road. Surveyors have laid out a map as shown. The road can be built through the town or around town through point R. The roads intersect at a right angle at point R. The line joining Park A to Park B is parallel to the line joining C and D.



Note: The figure is not drawn to scale.

a. What is the distance between the parks through town?

b. What is the distance from Park A to Park B through point R?