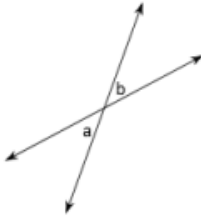


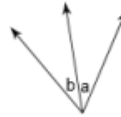
Practice Midterm #3

Name the relationship: complementary, linear pair, vertical, or adjacent.

1)

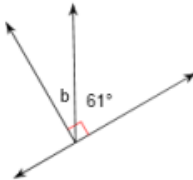


2)

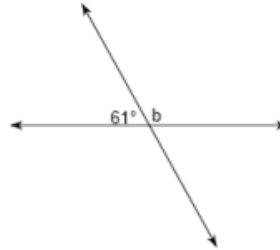


Find the measure of angle b.

3)



4)



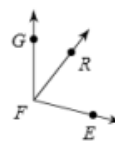
Find the distance between each pair of points.

5)  $(3, -4), (-2, 4)$

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

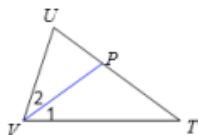
6)  $(7, -7), (5, -8)$

7)  $m\angle GFE = 104^\circ$  and  $m\angle GFR = 38^\circ$ .  
Find  $m\angle RFE$ .

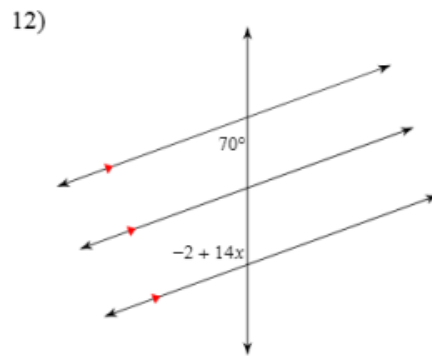
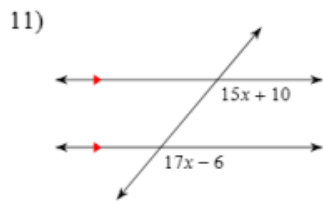
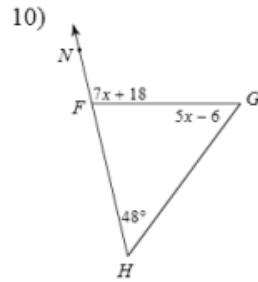
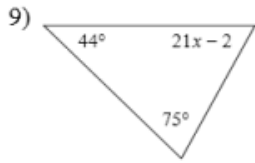


The figure shows a triangle with one of its angle bisectors.

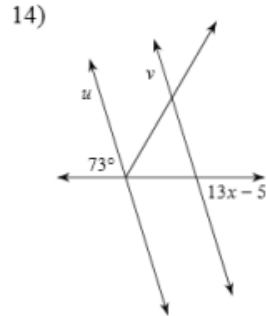
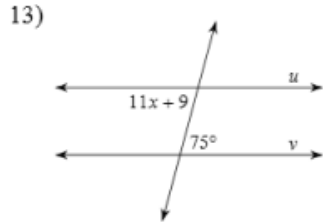
8) Find  $x$  if  $m\angle 1 = 2 + 17x$  and  $m\angle 2 = 19x - 2$ .



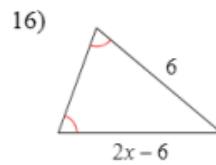
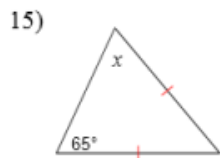
Solve for  $x$ .



Find the value of  $x$  that makes lines  $u$  and  $v$  parallel.

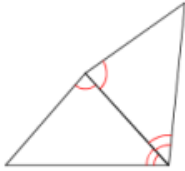


Find the value of  $x$ .



State if the two triangles are congruent. If they are, state how you know.

17)

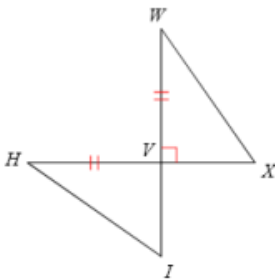


18)

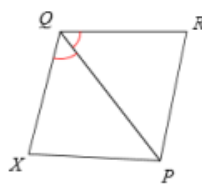


State what additional information is required in order to know that the triangles are congruent for the reason given.

19) HL



20) ASA



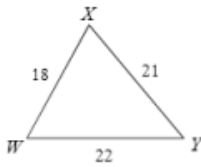
State if the three numbers can be the measures of the sides of a triangle.

21) 12, 11, 11

22) 21, 10, 9

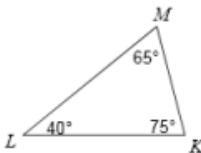
Name the largest and smallest angle in each triangle.

23)



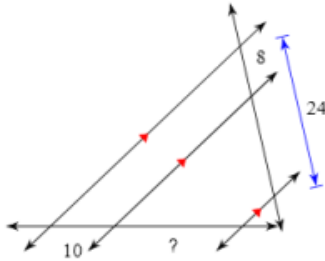
Name the longest and shortest side in each triangle.

24)



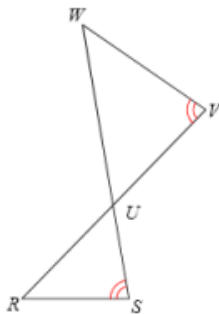
Find the missing length indicated.

25)



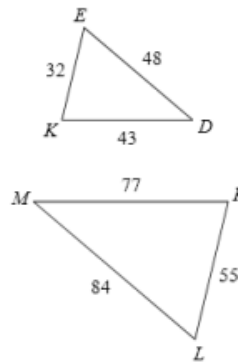
State if the triangles in each pair are similar. If so, state how you know they are similar and complete the similarity statement.

26)



$\triangle UVW \sim$  \_\_\_\_\_

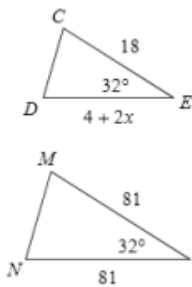
27)



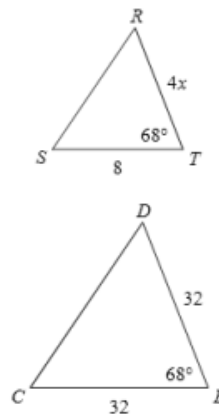
$\triangle KLM \sim$  \_\_\_\_\_

Solve for  $x$ . The triangles in each pair are similar.

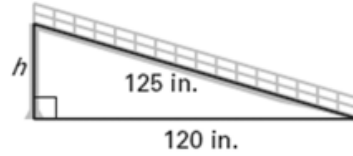
28)



29)



30. Ramp A shipping dock has a mobile ramp that is used to help load and unload cargo from trucks. The ramp is 125 inches long and has a base that is 120 inches long. What is the height  $h$  of the ramp?

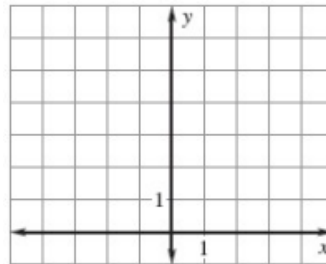


31. Decide whether the numbers can represent the side lengths of a triangle. If they can, classify the triangle as acute, right, or obtuse.

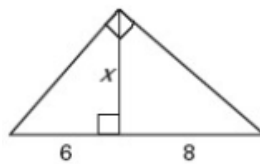
18, 34, 45

32. Graph points A, B, and C. Connect the points to form  $\triangle ABC$ . Decide whether  $\triangle ABC$  is acute, right, or obtuse.

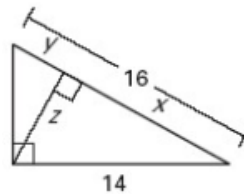
A(-1, 4), B(1, 1), C(4, 3)



33. Find the value(s) of the variable(s).



34. Find the value(s) of the variable(s).



35. What is the distance from the point  $H(3,6)$  to the midpoint of  $\overline{IQ}$ , with  $I(-2, -1)$  and  $Q(6,3)$ ?
36. A basket contains 6 red marbles, 4 blue marbles, and 3 white marbles. You choose a marble, put it aside, and then choose another marble. What is the probability that you choose 2 blue marbles?
37. Santa T. Claus needs to choose a group of 4 of his 11 reindeer to make a special trip next week. In how many ways can these reindeer be selected?
38. A computer club of 24 members needs to choose a project manager, chief programmer, and a web designer. In how many ways can members be chosen for these positions?
39. If a random person is selected from the students represented by the table below, what is the probability that the person is a female or is an honor student?

	Honor Students	Not Honor Students	Total
Females	8	6	14
Males	5	8	13
Total	13	14	27

40. Find the radius of circle  $Z$  with center  $Z(4,3)$  and point  $X(7, -3)$  on the circle.