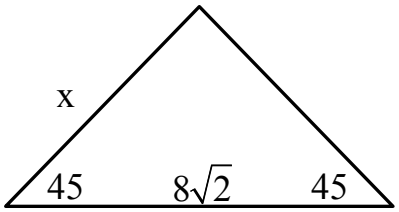
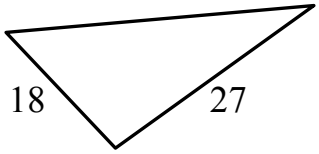
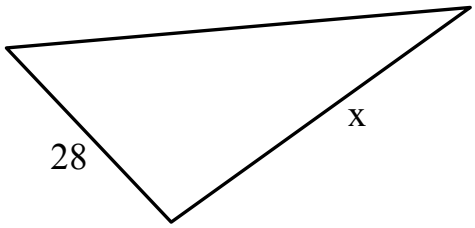
Geometry Homework #4

1) Find x in the following triangle:

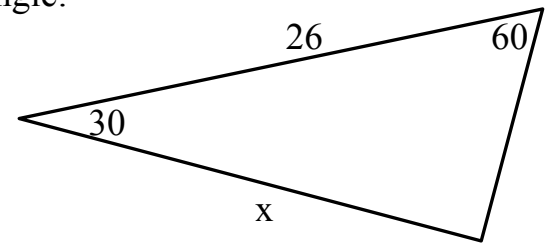


2) If these two triangles are similar, find x.



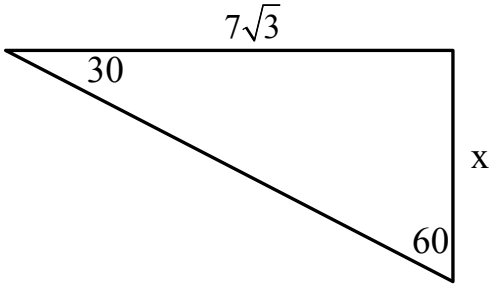


3) Find x in the following triangle:



4) A sculptor is commissioned by a town council to create a large marble statue to be placed in the city park. She makes a small model of an idea she has for the council's review and approval. The model is to scale and is similar in all proportions and dimensions to the actual sculpture. The base of her model is 8 inches long, and the height of her model is 3 inches. If the actual sculpture will be 18 feet long, how tall will it be?

5) Find x in the following triangle:



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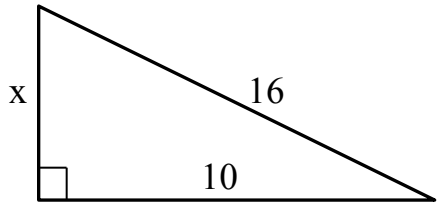
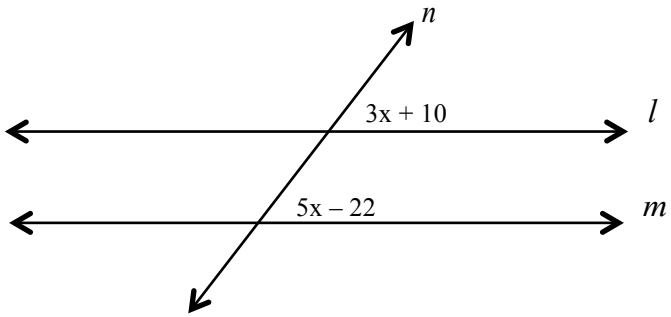
6) If the following triangle is a right triangle, find x exactly.

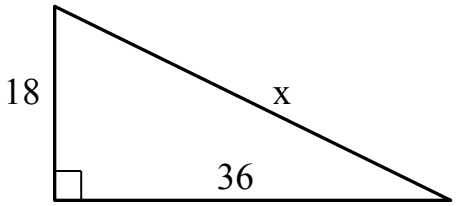


7) If $l \parallel m$, find x and the size of both distinct angles in the following drawing:



8) Plot the points A (-3,6), B (5,5), C (3,-4), and D (-5,-3) all on the same graph. Find the midpoint, distance, and slope between points A and B, B and C, C and D, and D and A. Use this information to determine the exact geometric shape of ABCD.

9) If the following triangle is a right triangle, find x exactly:



10) Plot the points A (-6,4), B (-1,8), C (7,-2), and D (2,-6) all on the same graph. Find the midpoint, distance, and slope between points A and B, B and C, C and D, and D and A. Use this information to determine the exact geometric shape of ABCD.

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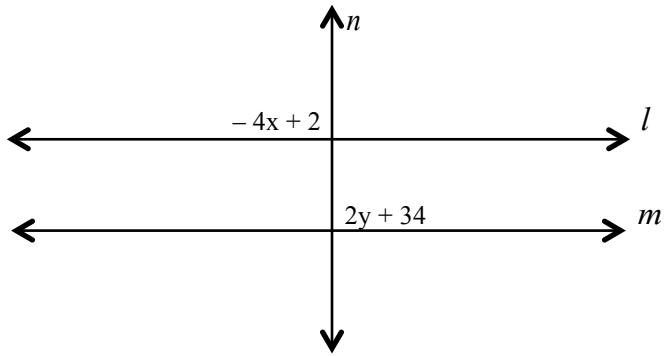
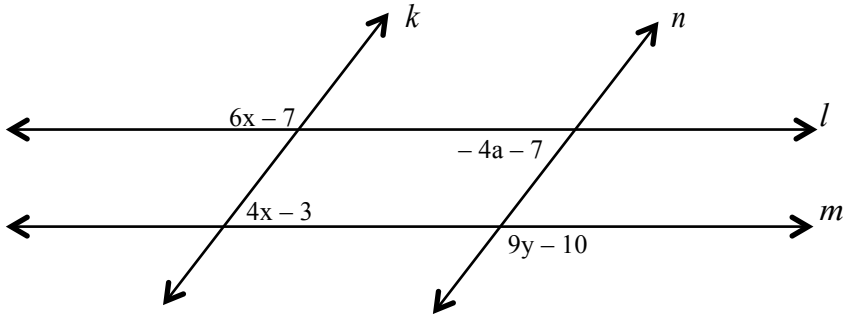
11) If $l \parallel m$ and $n \perp l$, find the size of all of the angles and find the value of x and y in the following drawing:



12) Plot the points A (-7,1), B (-3,4), C (8,1), and D (-4,-8) all on the same graph. Find the midpoint, distance, and slope between points A and B, B and C, C and D, and D and A. Use this information to determine the exact geometric shape of ABCD.

13) If a baseball diamond is an exact square and the distance from home plate to first base is 90 feet, how far, exactly, is it from second base to home plate?

14) If $l \parallel m$ and $k \parallel n$, find the sizes of the four angles and find the values of x, y, and a in the following drawing:



15) Plot the points A (-7,1), B (-1,7), C (5,1), and D (-1,-5) all on the same graph. Find the midpoint, distance, and slope between points A and B, B and C, C and D, and D and A. Use this information to determine the exact geometric shape of ABCD.

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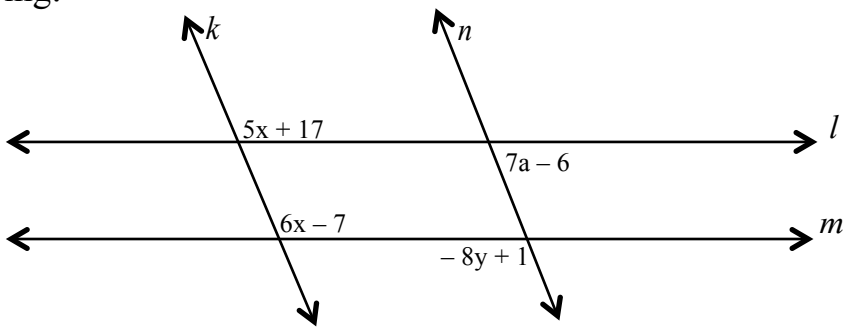
16) If $l \parallel m$ and $k \parallel n$, find the sizes of the four angles and find the values of x, y, and a in the following drawing:

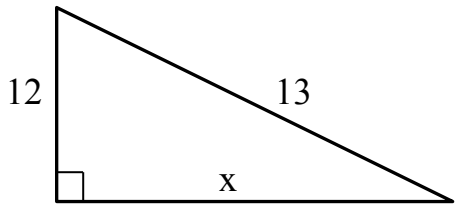


17) Plot the points A (-9,-4), B (-1,8), C (5,4), and D (-3,-8) all on the same graph. Find the midpoints between points A and B, B and C, C and D, and D and A. Plot these midpoints on the same graph and call them E, F, G, and H, respectively. Find the distance and slope between each of these midpoints and use this information to determine the exact geometric shape of EFGH.

18) A football field is a rectangle that is 160 feet wide and 300 feet long. If Tristan runs from the back corner of one end zone to the opposite corner of the other end zone, how far, exactly, does he run?

19) Plot the points A (-6,2), B (4,6), and C (2,-8), and determine the exact geometric shape of ABC. Find the midpoints between points A and B, and B and C and plot these midpoints on the same graph, calling them D and E, respectively. Find the distance and slope between A and D, D and E, E and C, and C and A and then use this information to determine the exact geometric shape of ADEC.

20) If the following triangle is a right triangle, find x exactly:



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