Geometry Homework #3
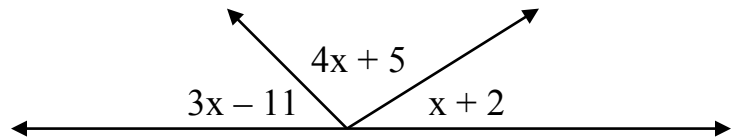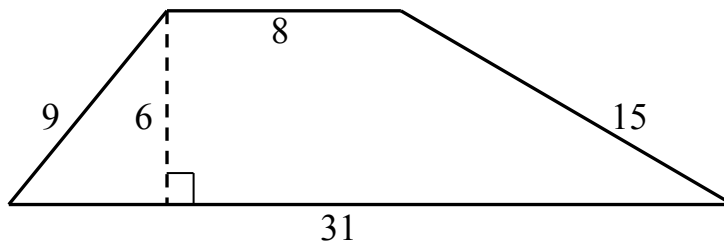
1) Find the circumference and area of a circle with a diameter of 48. Find the answers exactly AND approximately by approximating π as 3.14.

2) Find x and the sizes of all three angles in the following drawing:

4x + 5

3x – 11   x + 2

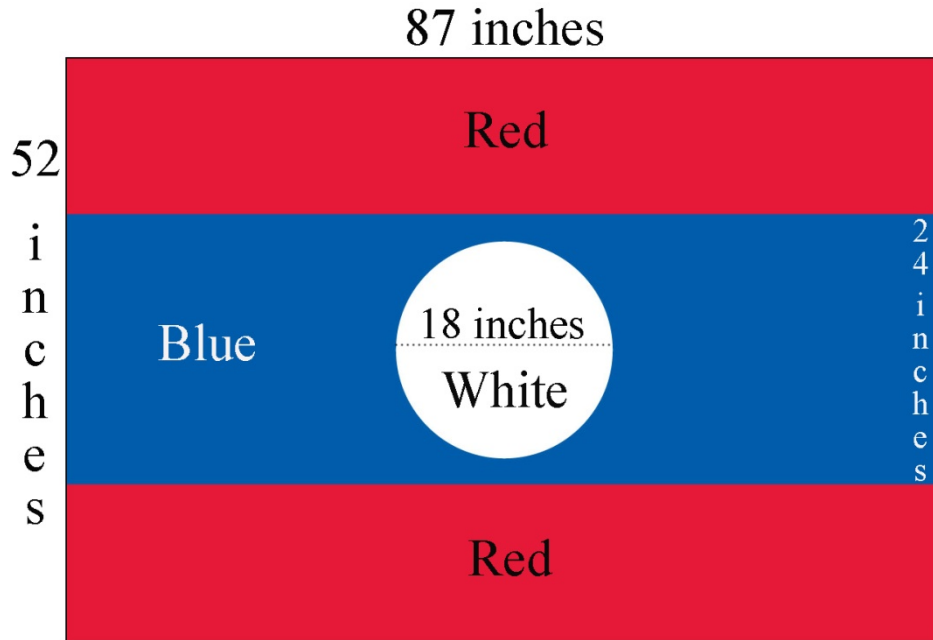3) Find the perimeter and area of the following trapezoid:

8

9   6

31

15

4) Adam's football team plays on a rectangular field that is 160 feet wide and 330 feet long. If Adam runs around the perimeter of the field, how far will he run, in feet, and how large is the field in square feet?
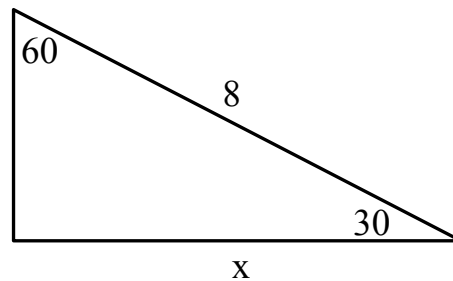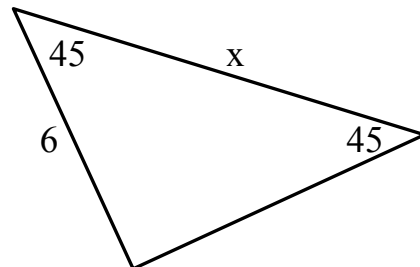
5) The national flag of Laos is a rectangle and is shown below. If both red sections have the same height, find the perimeter or circumference, in inches, and the area, in square inches, of the red, white, and blue sections and the perimeter, in inches, and the area, in square inches, of the entire flag.
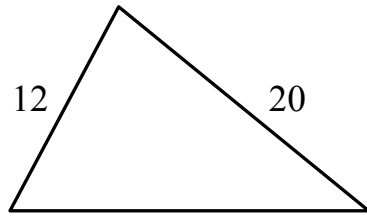
87 inches

52 inches

Red

Blue   18 inches
              White

24 inches

Red

6) Find x in the following triangle:

60

8

30

x

7) Find x in the following triangle:

45   x

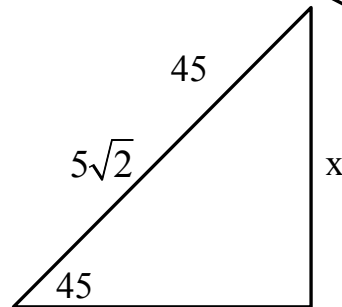6   45

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

12   20

x   8

9) Find x in the following triangle:

$7\sqrt{3}$

30

x

60
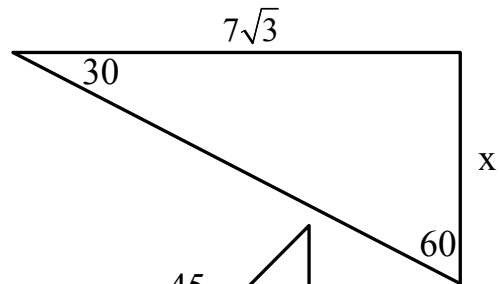
10) Find x in the following triangle:

45

$5\sqrt{2}$

x

45

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

5

7

14

x

12) Find x in the following triangle:

30

$10\sqrt{3}$

x

60

13) Find x in the following triangle:

60

x

9

30

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

x

16

12

18
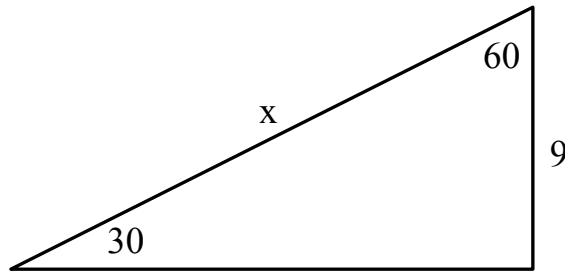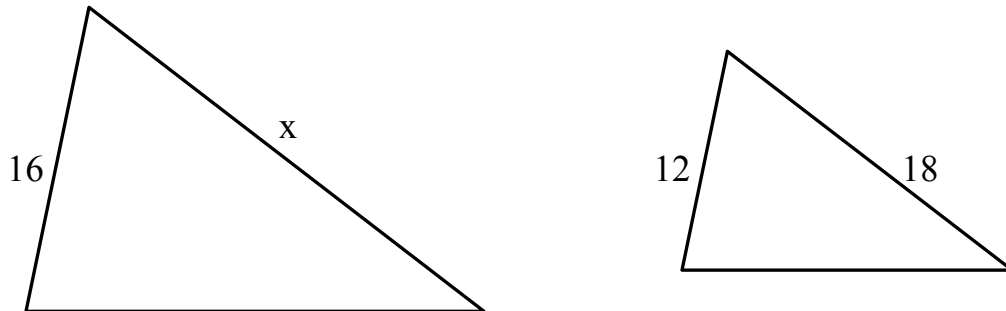
15) Find x in the following triangle: 45

x

45

17
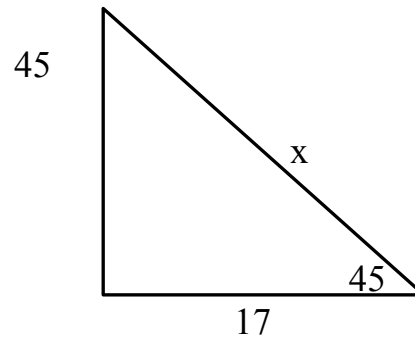
16) Find x in the following triangle:

x

45        $3\sqrt{2}$ 45
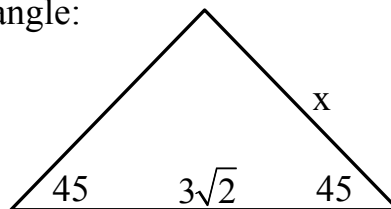
17) Engineers who design new cars often create scale models that are a fraction of the size of the actual car but similar in shape. All of the dimensions of the small model are exactly proportional to those of the full-sized car. The height of the model car is 4 inches, and the length of the model is 14 inches. If the height of the actual car is 42 inches, how long, in inches, is the actual car?
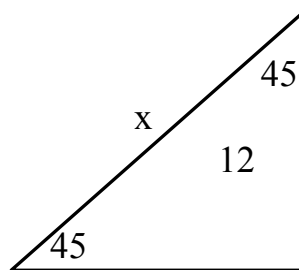
18) Find x in the following triangle:
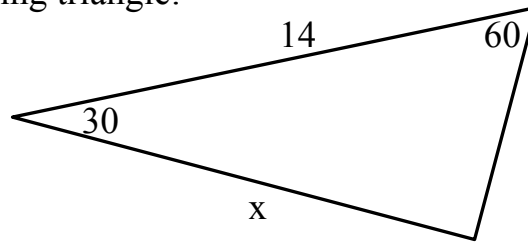
19) Find x in the following triangle:

20) Architects often make scale buildings that are a fraction of the size of the real buildings for demonstrational purposes. The model and the actual building are similar in shape. All of the dimensions on the model are directly proportional to the corresponding parts on the actual building. The base of the model measures 4 feet while the height of the model measures 32 feet. If the base of the actual building is 300 feet, how high will the actual building be?