

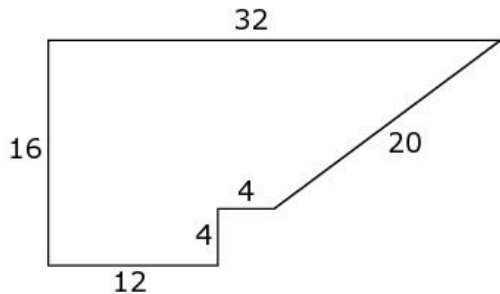
Name:

Class Period:

SM3 WS 8.A-Perimeter & Area of Similar Figures

Where appropriate, round answers to 1 decimal place. Use correct units of measure.

1. Kim mows lawns on the weekends. The shape of her most unusual yard is shown, with dimensions in feet.

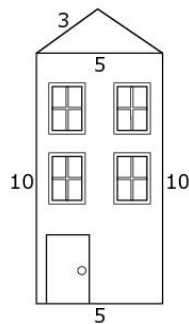


How many square feet of grass does Kim mow in this lawn?

- (A) 336 sq ft
- (B) 352 sq ft
- (C) 360 sq ft
- (D) 368 sq ft

2. A class is creating a model of a street front. Jared has sketched one of the houses, which has 90° angle at the apex (peak) of the roof.

Find the perimeter of the house front in the sketch.



- (A) 30 units
- (B) 32 units
- (C) 35 units
- (D) 37 units

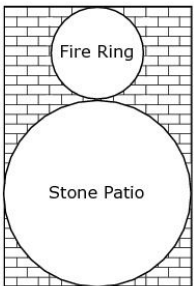
3. A farmer has 240 feet of fencing. She would like to use this fencing to create the largest possible area to plant one of her crops.

What is the shape and the approximate size of this field?

- (A) a circle with an area of $4,584 \text{ ft}^2$
- (B) a circle with an area of $18,335 \text{ ft}^2$
- (C) a square with an area of $3,600 \text{ ft}^2$
- (D) a square with an area of $14,400 \text{ ft}^2$

4. Ms. Braun builds a circular patio (12 feet in diameter) in her backyard. She adds a circular fire ring (6 feet in diameter), that touches the edge of the stone patio. She frames these two circles with a rectangular border that touches the fire ring and patio. The remaining area inside the rectangle is brick.

What is the total area covered by brick?

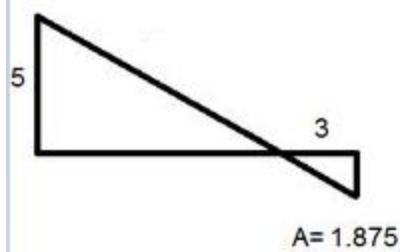


- (A) 74.6 square feet
- (B) 141.4 square feet
- (C) 159.5 square feet
- (D) 349.5 square feet

5. A triangle is defined by the points $A(13, 13)$, $B(18, 9)$, and $C(8, 9)$. What is the area of the triangle?

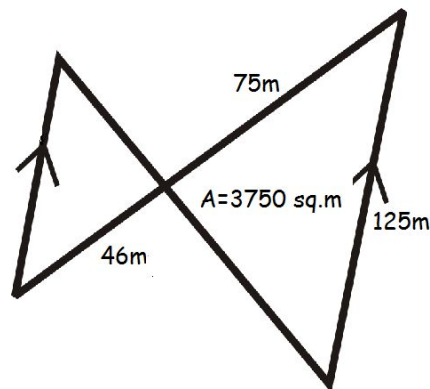
- (A) 20.0 square units
- (B) 20.5 square units
- (C) 22.8 square units
- (D) 32.0 square units

6. The triangles below are similar. If the area of the smaller right triangle is 1.875 units^2 , then what is the area of the larger right triangle?



(Hint: there are a few parts to this scenario. What do you need to know to find the larger area? And what missing piece do you need in order to do that? How will you find it?)

7. The triangles below are similar. Find the area of the smaller triangle.



8. For some medical imaging, the scale of the image is 3:1. That means that if an image is 3 cm long, the corresponding length on the person's body is 1cm. Find the actual area of a tumor if its image has an area of 2.7 cm^2 .

9. Mark has a rectangular garden that has a side length of 20 ft. The area of his garden is 192 ft^2 . Sally wants to build a similar rectangular garden, except she can only have a side length of 15 ft. What is the area of Sally's garden?

10. You are competing in a relay race in which you run completely around 2 ponds. Pond A has a circumference of 56.55 yds. Pond B has a radius of 22.5 yds.

a. Find the radius of Pond A.

b. Find the circumference of Pond B

11. A radiation pill of 65 grams has a half life of 5.25 days.

a. How long until the radiation of the pill has decreased in the body to 10 grams?

b. How much will be in the body after 9 days?

12. Solve for x: $3\log_4(x-1) + 6 = 9$

13. Convert $500 \frac{g}{cm^3}$ to $\frac{kg}{m^3}$

400 g			kg
cm^3			m^3

14. The boundaries of the City of Hookmead are shown below. The population of the city is 3,875 people in an area of ____ square miles(Find using picture below). Find the population density of the city in $\frac{people}{square\ mile}$. Measures are in miles.

15.
Convert 260 km to feet.

a.

260 km			feet

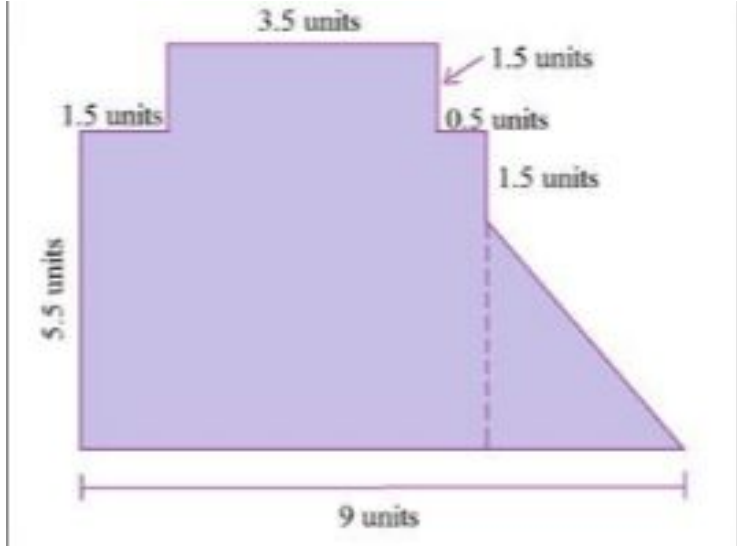
16. Below is the floorplan of a bedroom. If the actual size has a ratio of 1 cm: 3ft, find the area of the actual bedroom.

17. Below is a floorplan of a idea for a cement patio. The owner says he wants it to be 3.5

times larger. What is the original patio area, and the area of the proposed new patio?



18. Find the area of the following shape and then the area of the shape that is 5 times larger.



19. Convert from 50 grams/inches squared to kg/cm^2

50 grams			kg
inches ²			cm ²

20. Convert from 20m^2 to cm^2

20 m ²		cm ²