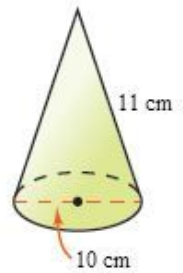


**\*\*Be sure to label answers correctly, where appropriate.\*\***

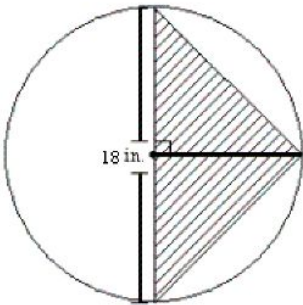
1.
- Find the surface area of the cone in terms of  $\pi$ .



The surface area of the cone is   $\text{cm}^2$ .  
(Simplify your answer. Type an exact answer in terms of  $\pi$ .)

2. If you are covering these for a supplier, how many covers can you make in a paper that is 5 m by 15 m.

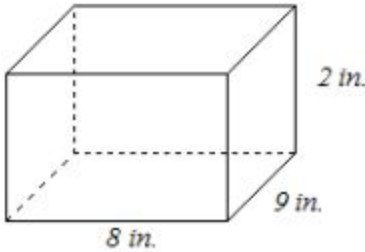
Find the probability that a point chosen at random will lie in the shaded area.



- a. 0.12
- b. 0.52
- c. 0.32
- d. 0.83

4. An ant farm aquarium is shown. If there are 864 ants in the farm, what is the population density of the ant farm?

- a. 60 ants per cubic inch
- b. 45 ants per cubic inch
- c. 6 ants per cubic inch
- d. 720 ants per cubic inch



5. Complete the following conversions:
- A.

70km					ft
hr					sec

6.

325 $in^2$		$cm^2$

7

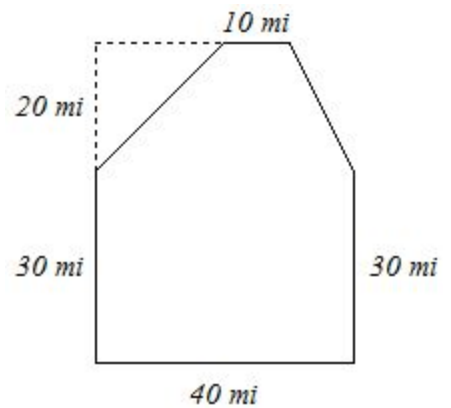
145 g			kg
$cm^3$			$m^3$

8

1 label			$1200 ft^2$	_____ labels
$25 cm^2$				

9. A ranch in Wyoming has 15,300 horses. The dimensions of the ranch are shown below. What is the population density of the horse ranch?

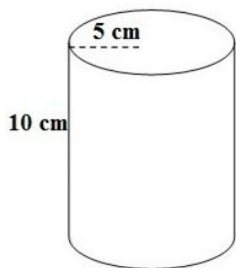
- 90 horses per square mile
- 12 horses per square mile
- 1700 horses per square mile
- 9 horses per square mile



10. If another area has a similar shape, but the sides are 2.75 times bigger, what would be the area of the Similar Shape?

11. Solve for x:  $\log_2(x + 3) - M = 3$

12. A cylindrical can has dimensions as shown.

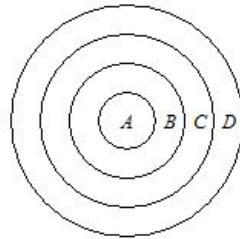


- Exact Surface area of JUST a LABEL around can.
- Approximate Surface area of JUST the label around can.

13. A shape that is defined by the points (2, 5), (5, 3), (5, 0), (2, 0) is rotated around the x-axis. Draw the 3-dimensional shape that is formed.

14.

The radius of the bull's-eye of the dartboard is 8 inches. The radius of each concentric circle is 8 inches more than the radius of the circle inside it. If a dart lands at random on the dartboard, what is the probability that the dart will hit in area C?



a.  $\frac{1}{4}$

b.  $\frac{3}{4}$

c.  $\frac{9}{16}$

d.  $\frac{5}{16}$

15. Solve for x.  $3e^{2x} - 6C = 21$

16. Which of the following objects could be used to create:

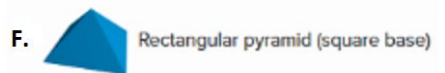
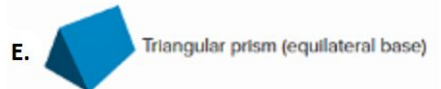
A. A triangular cross section?

B. A circular cross section?

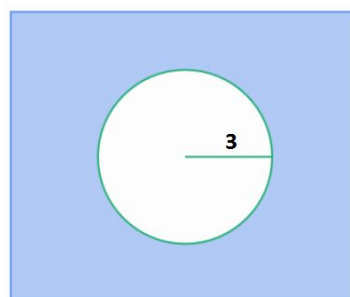
C. A rectangular cross section?

D. An elliptical (oval) cross section?

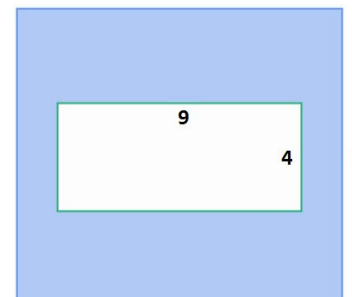
Select all that apply.



17. If you are using these boards for a bean bag toss competition, what would be the probability of hitting in the shaded area(s)? Is this a fair game?



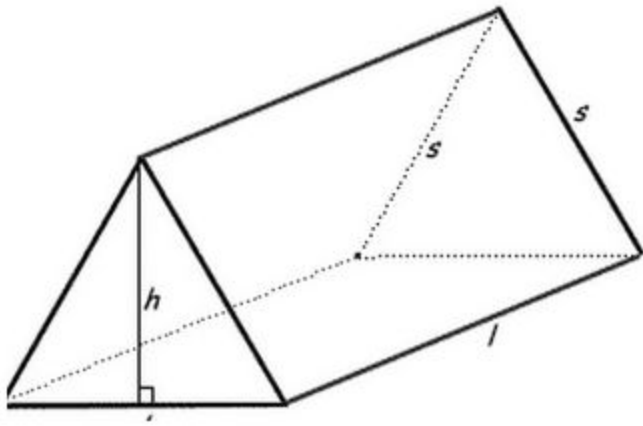
12



12

11

18. Find the Surface area of the following triangular prism where  $s = 10\text{cm}$  and  $l = 25\text{cm}$ .



19. How many of these prisms could you wrap in a paper that is 2 m by 3 m?
20. You find a rectangular prism that is 3cm by 10cm by 5 cm. If the prism is gold, what is the mass of the substance?

SUBSTANCE	DENSITY ( $\text{G}/\text{CM}^3$ )
AIR	0.0013
WOOD (OAK)	0.85
WATER	1.00
ICE	0.93
ALUMINUM	2.7
LEAD	11.3
GOLD	19.3
ETHANOL	0.94
METHANOL	0.79

21. How many pounds does this weigh?