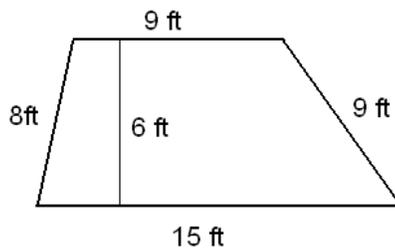
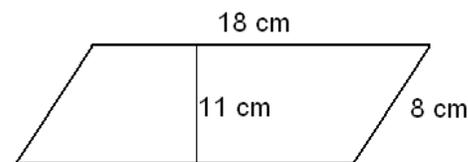


Review Problems

- We borrowed \$5000 for three years, with an annual simple interest rate of 9.5%. After one year, we make a partial payment of \$2000. After an additional 7 months, we make another partial payment of \$1000. How much do we have to pay back at the end of the three years?
- we placed \$100 into a bank account with an annual interest rate of 8%. How much money is there in the account after 35 years if the bank offers
 - simple interest
 - compound interest
- Susan really wanted to go to the conference! She hoped to be selected into the three-member committee that will travel and represent the class. If the class has 28 students,
 - in how many different ways can we select a three-member committee?
 - in how many different ways can we select a three-member committee with Susan in it?
- A deck of cards has 52 cards, 26 red and 26 black. We pull three cards, without replacement.
 - How many different outcomes are there?
 - How many different outcomes are there if all three cards pulled are red?
 - How many different outcomes are there if all three cards pulled are spades?
 - How many different outcomes are there if all three cards pulled are kings?
- A small town's lottery is designed to select four numbers out of 25. How many different ways can we fill out a lottery ticket?
- How many five-digit numbers are there with the property that none of their digit is 7?
- We toss a coin ten times in a row. How many outcomes are possible with
 - exactly two heads?
 - two or more heads?
 - with an even number of heads?
- The sides of a triangle are 37 inches, 12 inches, and 35 inches long. Is this a right triangle?
- An isosceles triangle has sides 13 ft, 13 ft, and 24 ft long. Compute its area.
- Compute the distance between $(-5, -3)$ and $(3, 8)$.
- Compute the perimeter and area of the figures shown below.

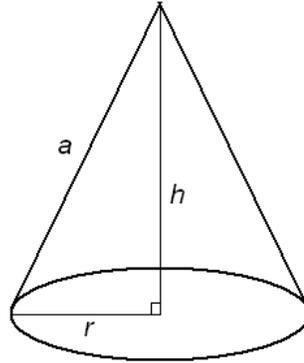


a)

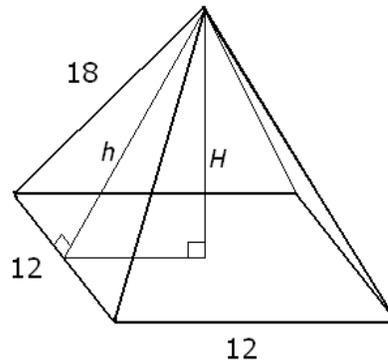


b)

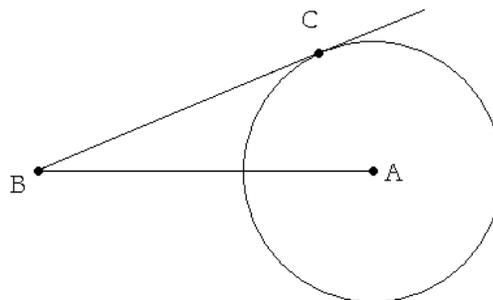
12. One side of a rectangle is 20 meters long. The diagonal of the rectangle is 29 meters long. How long is the other side of the rectangle?
13. A cone has a circular base with radius r and a height of h shown on the picture below.
- Compute the length of line segment h on the cone if $a = 25$ cm and $r = 20$ cm.
 - Compute the length of line segment a on the cone if $h = 12$ cm and $r = 10$ cm.



14. Consider the pyramid shown on the picture below. Dimensions are in centimeters.



- Compute the exact value of h .
 - Compute the exact value of H .
15. Line BC is tangent to the circle as shown on the picture below. Find the radius of the circle if $AB = 26$ cm and $BC = 24$ cm



Answers

1. \$3026.58
2. a) \$380 b) \$1478.53
3. a) 3276 b) 351
4. a) 22 100 b) 2600 c) 286 d) 4
5. 12 650
6. 52 488
7. a) 45 b) 1013 c) 512
8. yes
9. $A = 60 \text{ ft}^2$
10. $\sqrt{185}$
11. a) $P = 41 \text{ ft}$, $A = 72 \text{ ft}^2$ b) $P = 52 \text{ cm}$, $A = 198 \text{ cm}^2$
12. 21 m
13. a) 15 cm b) $\sqrt{244} \text{ cm} = 2\sqrt{61} \text{ cm}$
14. a) $\sqrt{288} \text{ cm}$ b) $\sqrt{252} \text{ cm}$
15. 10 cm