Name: _____ **Date:** _____
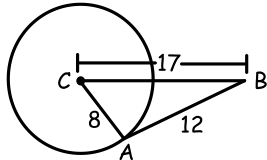
Is $\overline{AB}$ tangent to ⊙C? Explain your reasoning. Show work!

1.

17   8   12

2.

25   7   24
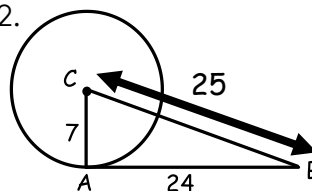
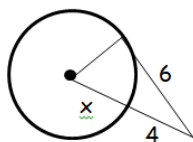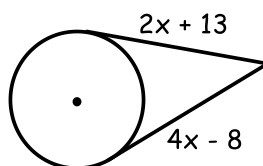**For each ⊙C find the value of x. Assume that segments that appear to be tangent are tangent.**

3.

6   x   4
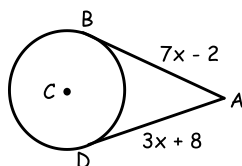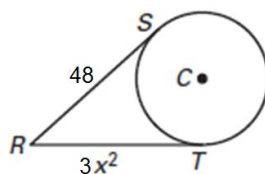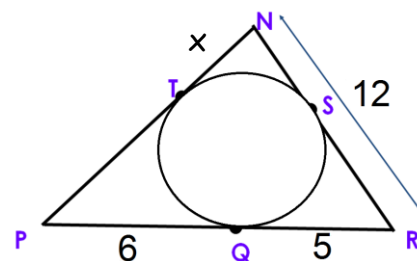
4.

2x + 13   4x - 8

5.

x   32   16

6.

B   7x - 2   C   A   3x + 8   D

7.

S   48   C   R $3x^2$ T

8.

x   N   T   S   12   P   6   Q   5   R

9.

x   8   6   4

10.

5   13   4   x

11.

x   4   6

12.

10   8   x   8

13.

2   5   x

14.

128°   A   B   C   46°   x°   D

15.

31

x

20

16.

13

5

x

17.

3

2x

3x

18
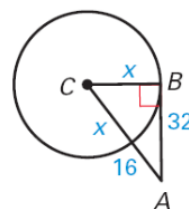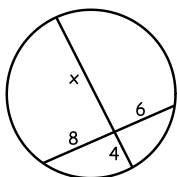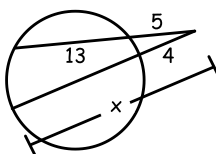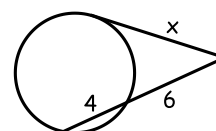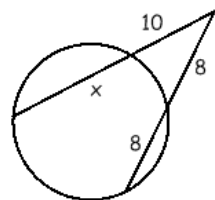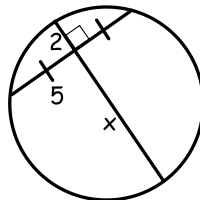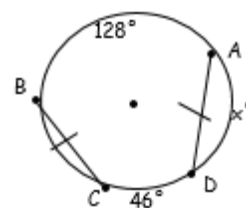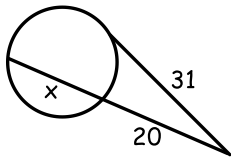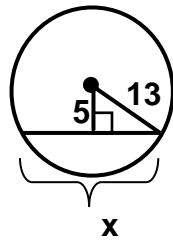
Find the volume of the following figures.

18.

10 m

12 m

19.

8 mm   d=4 mm

20.

2 in.

21.

7 ft

3 ft

5 ft

6 ft

22.

5 cm

10 cm

20 cm

6 cm
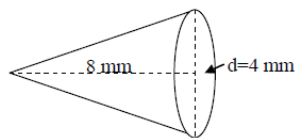
23. A prism has a square base with a side of 3 cm. Its volume is 90 cm³. A pyramid has the same square and same height as the prism. What is the volume of the pyramid?
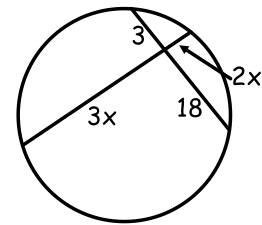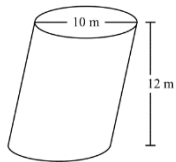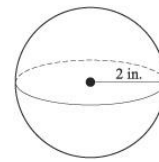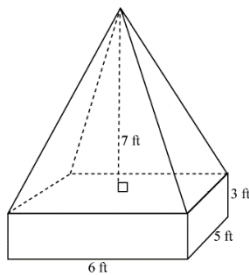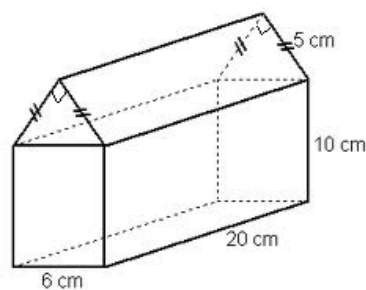
24. Collin is going to change the oil in his Jeep. He has two funnels. **A** has a diameter of 6 inches and is 5 inches deep. **B** has a diameter of 5 inches but is 7 inches deep. He wants to use the funnel with the **greatest volume** to minimize the chance of spilling the oil. What are the volumes of the funnels? Which one should he use <u>A</u> or <u>B</u>?

25. A perfume manufacturer is offering a gift set for the holidays that contains a regular size bottle that is a rectangular prism with base dimensions of 8cm by 4cm, and a height of 9cm. It also contains a travel size cylindrical bottle with an interior diameter of 3cm and a height of 5cm. What volume of perfume does it need to fill 1,000 gift sets?