

Name: _____ Date: _____ Period: _____

16 Given the volume of a cone is 1072.33 in^3 and the height is 16 in , find the radius of the cone.

$$V = \frac{\pi r^2 h}{3} = \frac{\pi r^2 \cdot 16}{3} = 1072.33$$

$$3216.99 = \frac{\pi r^2 \cdot 16}{3}$$

$$3216.99 \cdot 3 = \pi r^2 \cdot 16$$

$$9650.97 = \pi r^2 \cdot 16$$

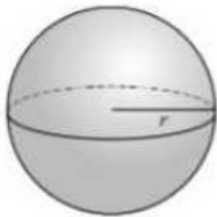
$$603.185 = \pi r^2$$

$$\frac{603.185}{\pi} = r^2$$

$$192.0 = r^2$$

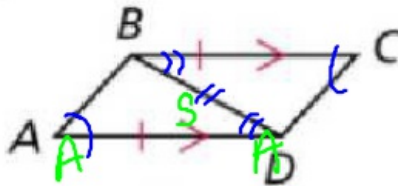
$$13.85 = r$$

17 Find the volume of a sphere that has a radius of 9 ft . Leave your answer in terms of π .



$$V = \frac{4\pi r^3}{3} = \frac{4\pi 9^3}{3} = 972\pi$$

18 Given $BC \parallel AD$, $\angle BAD \cong \angle DCB$,



Which method can be used to prove $\triangle BAD \cong \triangle DCB$?
(AAS, ASA, SAS, SSS, HL)

19 **A** Figure A: Describe the orientation (position): *same direction*



Classify the transformation. Circle one.

Reflection Rotation Dilation Translation

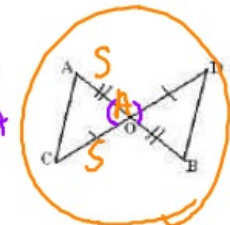
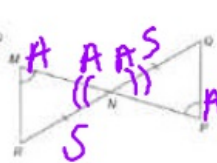
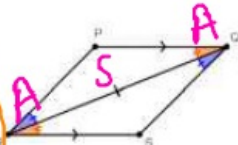
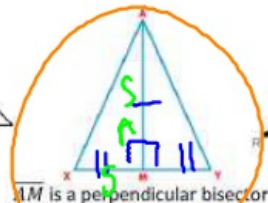
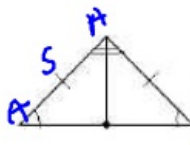


Figure B: Describe the orientation (position): *same direction*

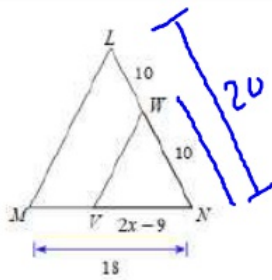
Classify the transformation. Circle one.

Reflection Rotation Dilation Translation

20 Which of the following figures is congruent by SAS? (Circle more than one)



21



The two triangles are similar. Find the value of x.

$$\frac{10}{20} = \frac{2x-9}{18}$$

$$40x - 180 = 180$$

$$+180 +180$$

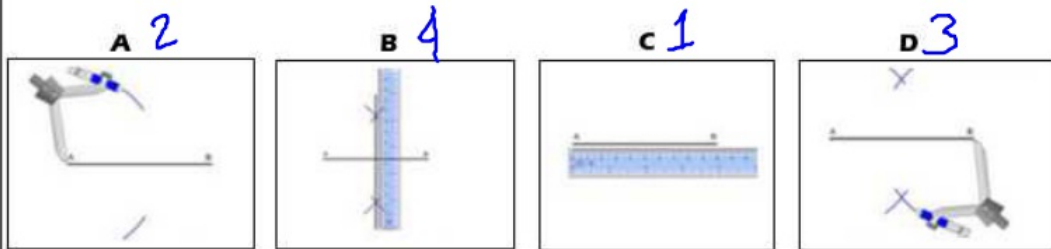
$$40x = 360$$

$$\frac{40x}{40} = \frac{360}{40}$$

$$x = 9$$

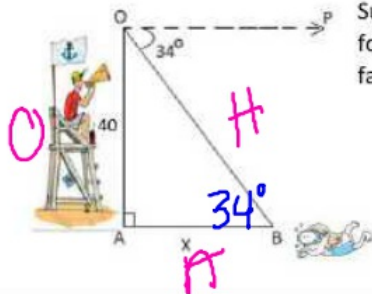
22

Scrambled below are the steps for constructing a perpendicular bisector. Put the steps in the correct order.



C
A
D
B

23



Suppose you are a lifeguard looking down at a swimmer. Your line of sight forms a 34° angle of depression. You are sitting 40 feet up in your chair. How far are you from the swimmer?

SOH CAH TOA

$$\tan 34 = \frac{40}{x}$$

down low divide
up high multiply

$$\frac{40}{\tan 34} = 59.3$$

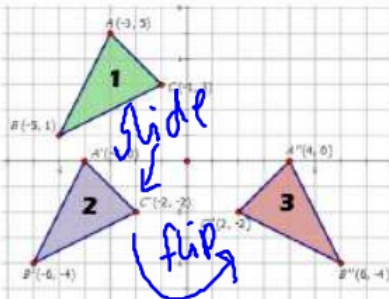
24

There are two stacks of CD's, one of which has been moved slightly. Use Cavalieri's Theorem to determine if the volumes of these two stacks are the same, or different? EXPLAIN.



The volumes are the same because the cross sectional areas at a given height are equal.

25



Describe the transformation from figure 1 unto figure 3.

translation \rightarrow reflection