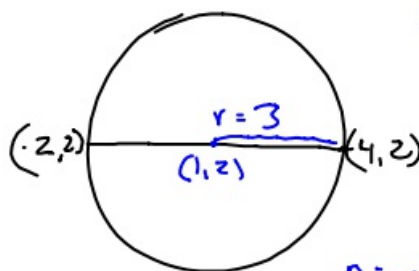


4-5-18 5th Geo

Ch. 11 PT 2

- (27) Give eq. of circle with diameter that has endpoints at $(-2, 2)$ $(4, 2)$.



Center is midpoint

$$\left(\frac{-2+4}{2}, \frac{2+2}{2} \right)$$

$$(1, 2)$$

$$C: (1, 2)$$

$$R: 3$$

$$(x-1)^2 + (y-2)^2 = 9$$

Distance formula from center to outside point

$$D = \sqrt{\Delta x^2 + \Delta y^2}$$

$$= \sqrt{3^2 + 0^2} \\ = 3$$

- (39) Cone's Volume = $\frac{1}{3} \pi r^2 h$

$$= \frac{1}{3} \pi (1.2r)^2 \cdot 1.2h$$

$$\frac{1}{3} \pi \boxed{1.44} r^2 \cdot \boxed{1.2} h$$

$$1.728 \cdot \frac{1}{3} \pi r^2 h$$

%

$$\rightarrow 2.8\% \text{ larger}$$

- (32) $A = \pi r^2$

$$A = \pi (1.05r)^2 \quad 100\%$$

$$\pi \cdot \boxed{1.1025} r^2 \quad 110.25\%$$

$$10.25\% \text{ larger}$$

$$\begin{aligned} \textcircled{40} \text{ Cylinder's Volume} &= \pi r^2 h \\ &= \pi (3r)^2 h \\ &= \pi 9r^2 h \\ &= \boxed{18} \pi r^2 h \end{aligned}$$

New practice

- ① The radius of a circle is decreased by 15%. How much does that decrease the area by?

$$\begin{aligned} A &= \pi r^2 & A &= \pi (.85r)^2 \\ & & &= \pi .7225r^2 \\ & & &= \boxed{.7225} \pi r^2 \\ 100\% - 72.25\% & & & 72.25\% \text{ that you} \\ 27.75\% & & & \text{are keeping} \\ \text{decrease} & & & \end{aligned}$$

- ② The radius of a sphere is decreased by 10%. How much does that decrease the volume by?

$$\begin{aligned} V &= \frac{4}{3} \pi r^3 & V &= \frac{4}{3} \pi (.9r)^3 \\ & & &= \frac{4}{3} \pi \boxed{.729} r^3 \\ 100\% - 72.9\% & & & 72.9\% \text{ left} \\ & & & = 27.1\% \end{aligned}$$

- ③ A sphere has its radius increased by 80%. What percent does the volume increase.

$$V = \frac{4}{3} \pi r^3 \qquad V = \frac{4}{3} \pi (1.8r)^3$$
$$\qquad \qquad \qquad \frac{4}{3} \pi \boxed{5.832} r^3$$

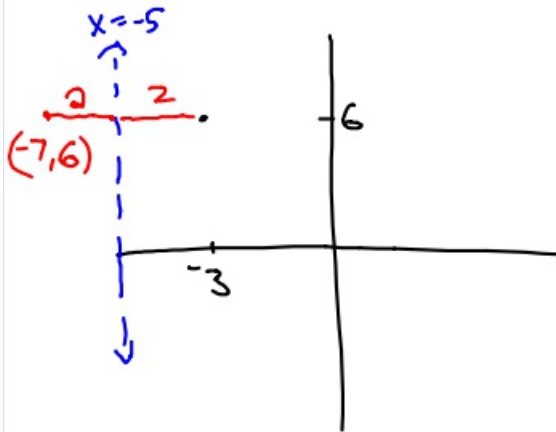
$$\frac{583.2\% - 100\%}{483.2\% \text{ increase}}$$

- ④ The ratio of the areas of two pizzas is 4:25. What is the ratio of the radii?

These #s get squared.

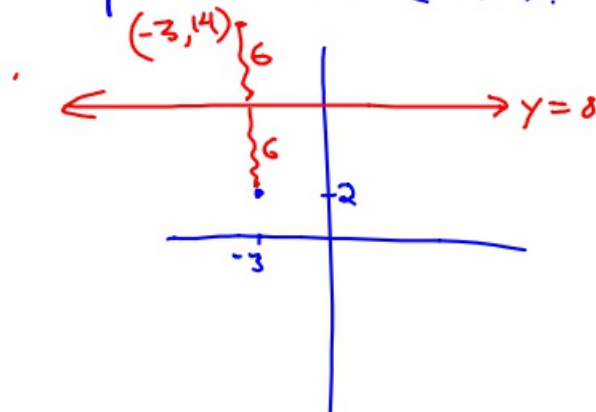
$$\sqrt{4:25}$$
$$2:5$$

- ⑤ Reflect $A = (-3, 6)$ over the line $x = -5$.



- ⑥ Reflect $A = (2, -3)$ over the line $y = x$ and then $y = 8$.

After flipping over $y = x$, the point is at $(-3, 2)$.



- ⑦ Name a polygon that doesn't have rotational symmetry.

Scalene \triangle

isosceles trapezoid

any trapezoid

isosceles \triangle



4-5-2018

Ch. 11 PT2

(36)

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

$$V = \frac{4}{3} \pi (1.22r)^3$$

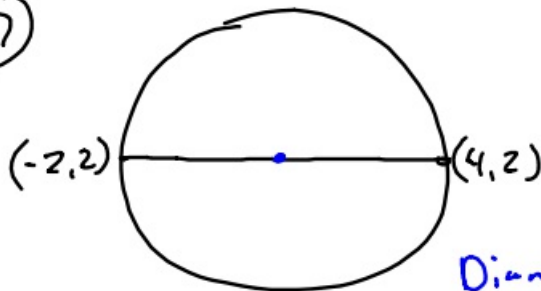
$$\frac{4}{3} \pi \boxed{1.8158} r^3$$

181.58%

- 100%

81.58%

(27)



Diameter is distance between points

Center is simply the midpoint

$$\left(\frac{-2+4}{2}, \frac{2+2}{2} \right)$$

$$C = (1, 2)$$

$$D = \sqrt{\Delta x^2 + \Delta y^2}$$

$$\sqrt{6^2 + 0^2}$$

$$= 6$$

\therefore radius = 3

$$(x-1)^2 + (y-2)^2 = 9$$

(35)

Sphere's Volume

8:27

r^3

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

$$\sqrt[3]{8:27}$$

2:3

$$\textcircled{40} V = \pi r^2 h$$

$$V = \pi (3r)^2 \cdot h$$

$$\pi \underline{9} r^2 \underline{2} \cdot h$$

$$\boxed{18} \pi r^2 h$$

$$\textcircled{39} V = \frac{1}{3} \pi r^2 h$$

$$V = \frac{1}{3} \pi (1.2r)^2 \cdot 1.2h$$

$$\frac{1}{3} \pi \cdot 1.44 r^2 \cdot 1.2h$$

$$\boxed{1.728} \cdot \frac{1}{3} \pi \cdot r^2$$

$$\begin{array}{r} 172.8\% \\ - 100\% \\ \hline 72.8\% \text{ increase} \end{array}$$

New practice

- ① A circle's radius is decreased by 10%. What percentage does the area decrease by?

$$A = \pi r^2 \quad A = \pi (.90r)^2$$

$$\pi \cdot \boxed{.81} r^2$$

keeping 81%.

19% decrease

- ② Radius of a sphere is increased by 60%. What percent does the volume increase by?

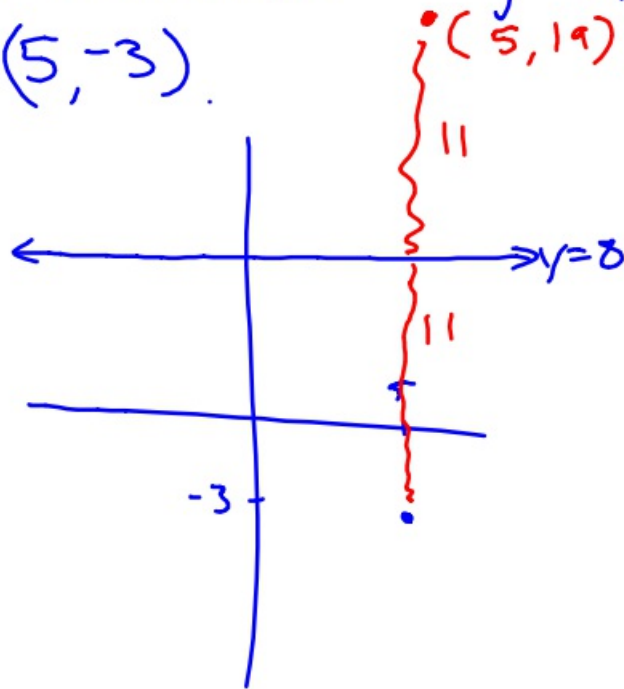
$$V = \frac{4}{3} \pi r^3 \quad V = \frac{4}{3} \pi (1.6r)^3$$

$$\frac{4}{3} \pi \boxed{4.096} r^3$$

$$\begin{array}{r} 409.6\% \text{ of itself} \\ - 100\% \\ \hline 309.6\% \text{ increase} \end{array}$$

③ $A = (-3, 5)$. Reflect it over $y = x$ and then $y = 8$.

After reflecting over $y = x$,
 $A' = (5, -3)$.



④ $A = (-8, 2)$. Reflect it over $x = 1$ and then $y = -x$.

