Class # 7 Practice

1. Select **all** figures for which there exists a direction such that all cross sections taken at that direction are congruent.

    (A.) triangular pyramid

    (B.) square pyramid

    (C.) rectangular prism

    (D.) cube

    (E.) cone

    (F.) cylinder

    (G.) sphere

2. Imagine an upright cone with its base resting on your horizontal desk. Sketch the cross section formed by intersecting each plane with the cone.

    a. vertical plane not passing through the cone's topmost point

    b. horizontal plane

    c. diagonal plane

3. Name 2 figures for which a circle can be a cross section.

8. Match each trigonometric function to a ratio. You may use ratios more than once. **(Lesson 4-6)**

A. tan(A)

B. tan(B)

C. cos(A)

D. cos(B)

E. sin(A)

F. sin(B)

1. $\frac{y}{z}$

2. $\frac{x}{z}$

3. $\frac{x}{y}$

4. $\frac{y}{x}$
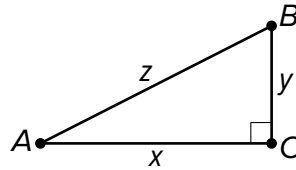
3. Imagine an upright cone with its base resting on your horizontal desk. Match each plane with the image of the cross section formed by intersecting the plane with the cone. **(Lesson 5-2)**
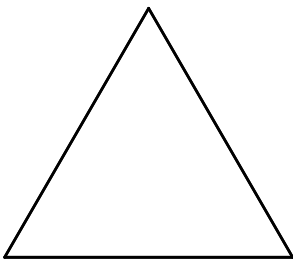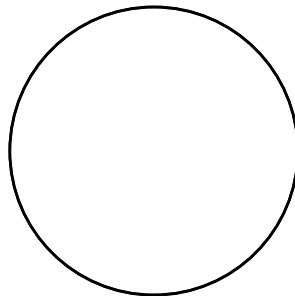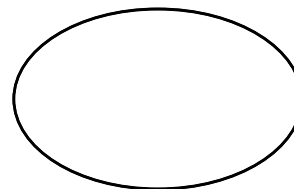
Figure 1	**Figure 2**	**Figure 3**

A. horizontal

B. vertical, through cone's topmost point

C. diagonal

1. Figure 1

2. Figure 2

3. Figure 3

1. A pyramid has a height of 5 inches and a volume of 60 cubic inches. Select **all** figures that could be the base for this pyramid.

A. a square with side length 6 inches

B. a 3 inch by 4 inch rectangle

C. a 4 inch by 9 inch rectangle

D. a circle with radius 4 inches

E. a right triangle with one side 5 inches and the hypotenuse 13 inches

F. a hexagon with an area of 36 square inches

4. The volume of a pyramid is 50 cubic units. The base is a square with sides of length 5. What is the height? **(Lesson 5-13)**

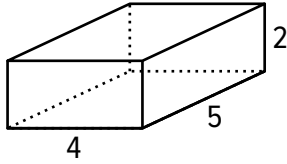**A.** 2 units   **C.** 6 units

B. 4 units   **D.** 10 units
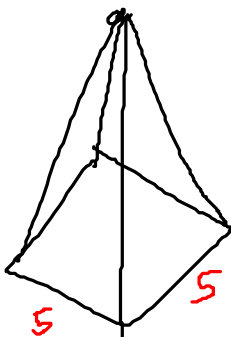
$$V = \frac{Bh}{3}$$

$$50 = \frac{(5)(5)h}{3}$$

$$3(50) = \left(\frac{25h}{3}\right)3$$

$$\frac{150}{25} = \frac{25h}{25}$$

$$6 = h$$

$$V = \dfrac{\pi r^2 h}{3}$$

3. Select **all** the solids with volume 40 cubic units.

A. rectangular prism

2
5
4

$$V = lwh$$

B. right rectangular pyramid

5
2
4

$$V = \dfrac{Bh}{3}$$

C. right cone

8
$B = 15$

$A = \tfrac{1}{2}bh$

$$V = \dfrac{Bh}{3} \leftarrow h_{pyr.}$$
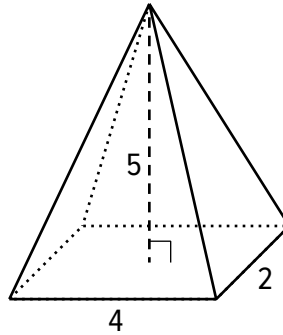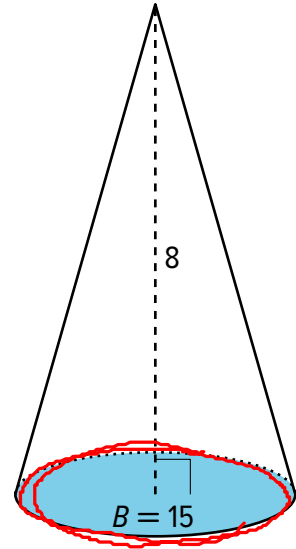
D. triangular pyramid

12
5
4

E. right cylinder

10
2
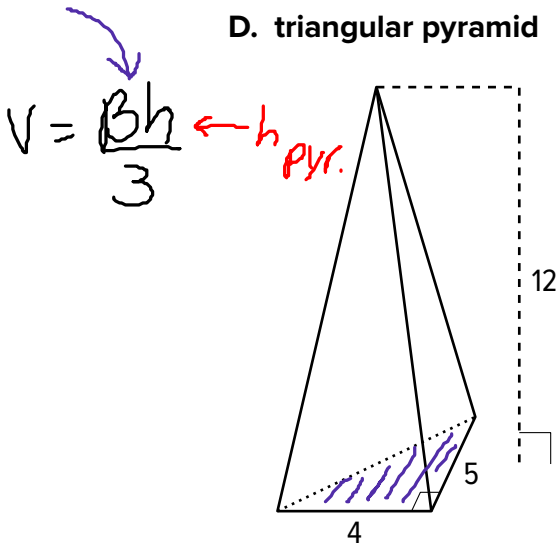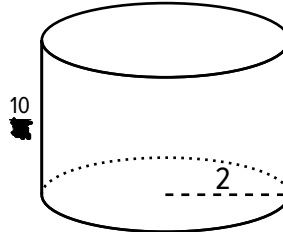
$$V = \pi r^2 h$$
$$V = \pi (2)^2 \, 10$$

F. right hexagonal prism

4
$B = 30$
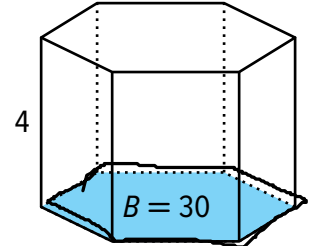
$$V = Bh$$

A. Solid A

C. Solid C

E. Solid E

B. Solid B

D. Solid D

F. Solid F