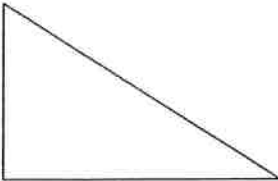
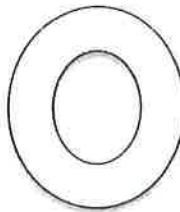


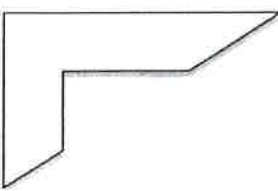
Key

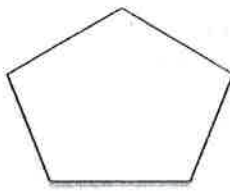
**12.1 I can identify and name basic geometric shapes.**

Determine if the shape is a polygon. If it is a polygon, classify the polygon and state whether the shape is convex or concave. If it is not a polygon, state why it is not.

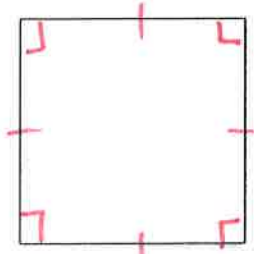
1)    
 yes  
 triangle  
 Convex (2)

2)    
 No  
 curved sides (2)

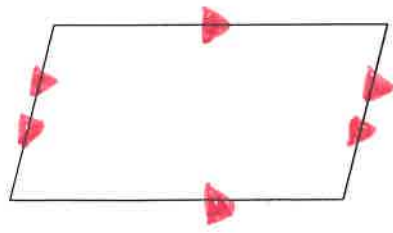
3)    
 yes  
 hexagon  
 Concave (2)

4)    
 yes  
 pentagon  
 Convex (2)

Classify each quadrilateral. Circle all names that apply.

5) 

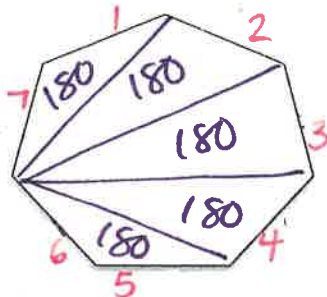
Polygon  
 Parallelogram  
 Quadrilateral  
 Rhombus  
 Trapezoid  
 Rectangle  
 Square (3)

6) 

Polygon  
 Parallelogram  
 Quadrilateral  
 Rhombus  
 Trapezoid  
 Rectangle  
 Square (3)

12.1 I can use the interior angle sum theorem to calculate the degrees in a polygon.

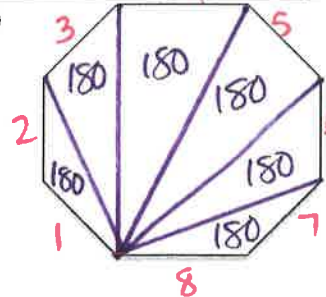
7)



$(n-2)180$   
 $(7-2)180$   
 $(5)180$   
**900°**

Heptagon = 7 sides = 5 triangles (2)

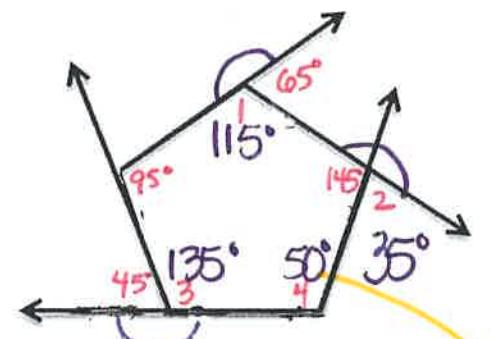
8)



$(n-2)180$   
 $(8-2)180$   
 $(6)180$   
**1080°**

Octagon = 8 sides = 6 triangles (2)

Find the missing measures. \*FIGURE NOT DRAWN TO SCALE\*



$135 + 95 + 115 + 145 + X = 540$

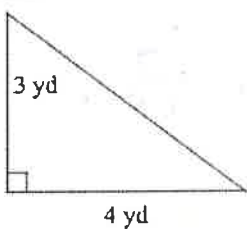
$440 + X = 540$   
 $X = 50$

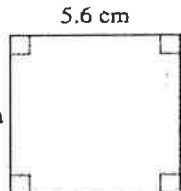
- 9)  $m\angle 1 = 115^\circ$
  - 10)  $m\angle 2 = 35^\circ$
  - 11)  $m\angle 3 = 135^\circ$
  - 12)  $m\angle 4 = 50^\circ$
- (4)

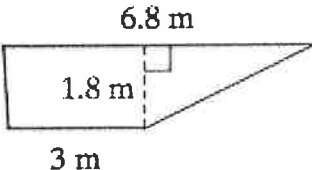
Score: 22 pts %

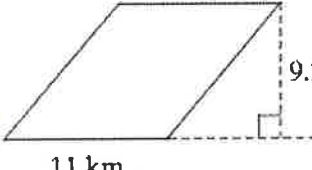
12.2 I can find the area of squares, rectangles, parallelograms, trapezoids, and triangles.

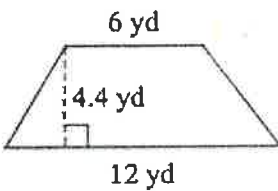
Write the area formula for each shape. Use the area formula to calculate the area.

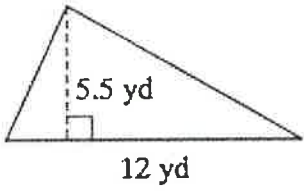
1)   $A = \frac{1}{2}bh$   
 $= \frac{1}{2}(4)(3)$   
 $= 6 \text{ yd}^2$  (3)

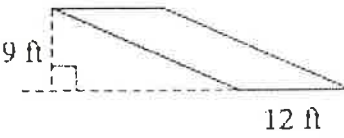
2)   $A = bh$   
 $= (5.6)(5.6)$   
 $= 31.36 \text{ cm}^2$  (3)


3)   $A = \frac{1}{2}(b_1 + b_2)h$   
 $= \frac{1}{2}(6.8 + 3)(1.8)$   
 $= \frac{1}{2}(9.8)(1.8)$   
 $= 8.82 \text{ m}^2$  (3)

4)   $A = bh$   
 $= (11)(9.2)$   
 $= 101.2 \text{ km}^2$  (3)

5)   $A = \frac{1}{2}(b_1 + b_2)h$   
 $= \frac{1}{2}(6 + 12)(4.4)$   
 $= \frac{1}{2}(18)(4.4)$   
 $= 39.6 \text{ yd}^2$  (3)

6)   $A = \frac{1}{2}bh$   
 $= \frac{1}{2}(12)(5.5)$   
 $= 33 \text{ yd}^2$  (3)

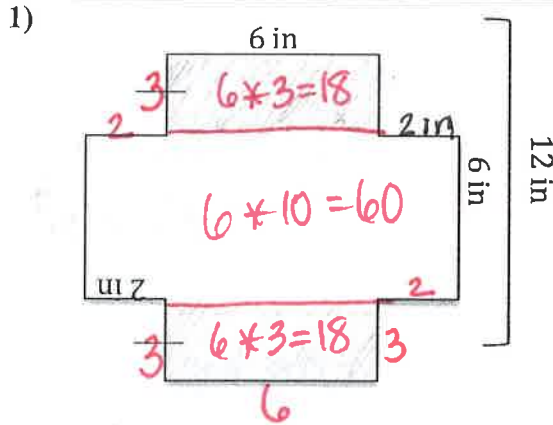
7)   $A = bh$   
 $= (12)(9)$   
 $= 108 \text{ ft}^2$  (3)

8)   $A = bh$   
 $= (6)(1.6)$   
 $= 9.6 \text{ km}^2$  (3)

Score: 24 pts. %

12.3 I can find the area and perimeter of the polygon given.

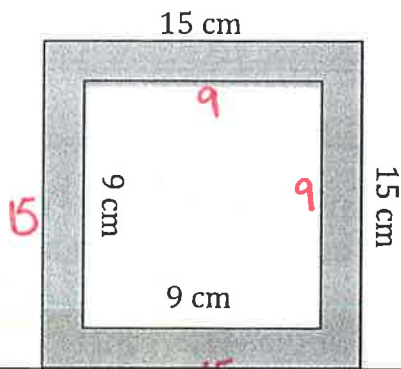
Find the area and perimeter of each figure.



$$\text{Area} = 18 + 36 + 18 = 72 \text{ in}^2$$

$$\text{Perimeter} = 44 \text{ in}$$

2) Find the area of the shaded region and the perimeter of the shaded region.

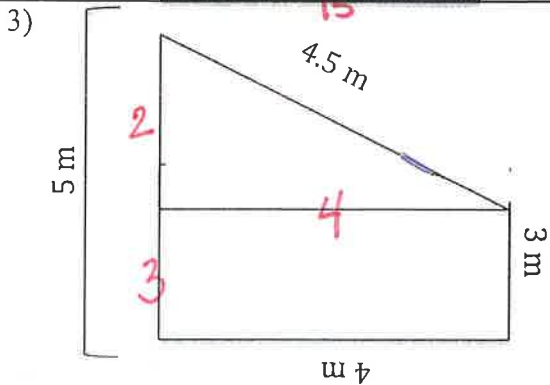


$$\text{Area (outer)} = 15 \times 15 = 225$$

$$\text{Area (inner)} = 9 \times 9 = 81$$

$$144 \text{ cm}^2$$

$$\text{Perimeter (outer)} = 60 \text{ cm}$$



$$\text{Area (triangle)} = \frac{1}{2} b h = \frac{1}{2} (4)(2) = 4 \text{ m}^2$$

$$\text{Area (rectangle)} = b h = (4)(3) = 12 \text{ m}^2$$

$$\text{Combined Area} = 16 \text{ m}^2$$

$$\text{Perimeter} = 16.5 \text{ m}$$

Score: 12 pts. %

12.4 I can apply the circumference circle to find the circumference of a circle.

Find the circumference of each circle. Use 3.14 for  $\pi$ . Round your answer to the nearest tenth.

1) A circle with a diameter of 2 inches.

$$C = \pi D$$
$$= (3.14)(2)$$
$$= 6.28 \text{ in}$$

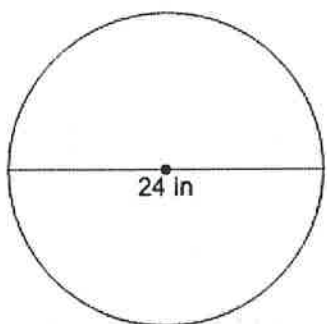
(3)

2) A circle with a radius of 15 mm.

$$C = 2\pi r$$
$$= 2(3.14)(15)$$
$$= 94.2 \text{ mm}$$

(3)

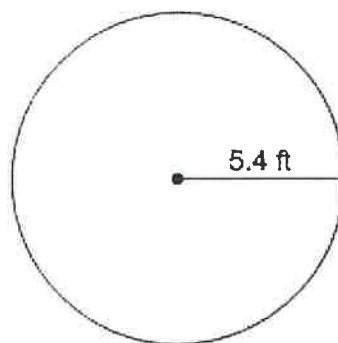
3)



$$C = \pi D$$
$$= (3.14)(24)$$
$$= 75.36 \text{ in}$$

(3)

4)



$$C = 2\pi r$$
$$= 2(3.14)(5.4)$$
$$= 33.9 \text{ ft}$$

(3)

Find the missing measurement. Use 3.14 for  $\pi$ .

5) Circumference: 100.48 in  
Diameter: ?

$$C = \pi D$$
$$100.48 = 3.14 D$$
$$32 \text{ in} = D$$

(3)

6) Circumference: 31.4 yd  
Radius: ?

$$C = 2\pi r$$
$$31.4 = 2(3.14)r$$
$$31.4 = 6.28 r$$
$$5 \text{ yds} = r$$

(3)

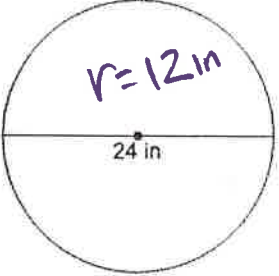
Score: 18 pts %



**12.5 I can find the area of a circle.**

Find the area of the circle. Use 3.14 for  $\pi$ . Round to nearest tenth.

1)



$r = 12 \text{ in}$

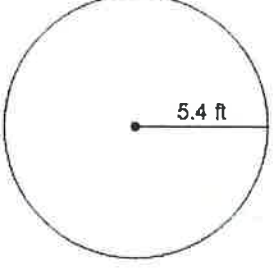
$$A = \pi r^2$$

$$= (3.14)(12)^2$$

$$\approx 452.2 \text{ in}^2$$

(3)

2)



5.4 ft

$$A = \pi r^2$$

$$= (3.14)(5.4)^2$$

$$= (3.14)(29.16)$$

$$\approx 91.6 \text{ ft}^2$$

(3)

3) A circle with a radius of 6 cm.

$$A = \pi r^2$$

$$= (3.14)6^2$$

$$= (3.14)(36)$$

$$\approx 113 \text{ cm}^2$$

(3)

4) A circle with a diameter of 40 mm.

$$A = \pi r^2$$

$$= (3.14)(20)^2$$

$$= (3.14)(400)$$

$$\approx 1256 \text{ mm}^2$$

(3)

Find the **area** of the circle given the circumference. Use 3.14 for  $\pi$ . Round to nearest hundredth.

5)  $C = 43.96 \text{ cm}$

Area =

$$C = 2\pi r$$

$$43.96 = 2(3.14)r$$

$$43.96 = 6.28r$$

$$7 = r$$

$$A = \pi r^2$$

$$= 3.14(7)^2$$

$$\approx 153.9 \text{ cm}^2$$

(3)

6)  $C = 15.7 \text{ ft}$

Area =

$$C = 2\pi r$$

$$15.7 = 2(3.14)r$$

$$15.7 = 6.28r$$

$$2.5 = r$$

$$A = \pi r^2$$

$$= (3.14)(2.5)^2$$

$$\approx 19.6 \text{ ft}^2$$

(3)

Find the **circumference** of the circle given the area. Use 3.14 for  $\pi$ . Round to nearest hundredth.

5)  $A = 28.26 \text{ in}^2$

$$A = \pi r^2$$

$$28.26 = (3.14)r^2$$

$$9 = r^2$$

$$3 = r$$

$$C = 2\pi r$$

$$= 2\pi(3)$$

$$\approx 18.8 \text{ in}$$

(3)

6)  $A = 200.96 \text{ yd}^2$

$$A = \pi r^2$$

$$200.96 = (3.14)r^2$$

$$64 = r^2$$

$$8 = r$$

$$C = 2\pi r$$

$$= 2(3.14)(8)$$

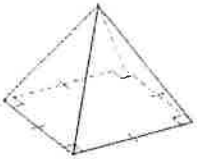
$$\approx 50.2 \text{ yd}$$

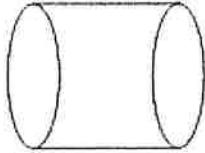
(3)

Score: 24 pts. %

12.6 I can identify the solid and cross-sections of the solid.

Name the solid.

1)  Square pyramid (1)

2)  Cylinder (1)

3)  Cone (1)

4)  hexagonal pyramid (1)

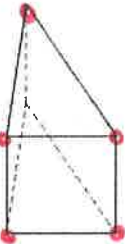

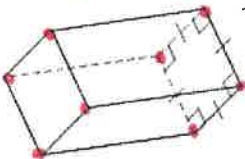
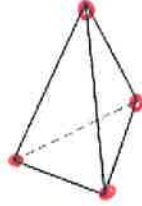
Match the figure to the correct number of vertices, edges and faces.

5) Faces: 4  
Vertices: 4  
Edges: 6  
D (1)

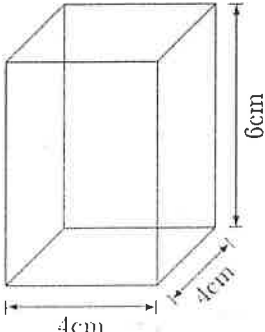
6) Faces: 6  
Vertices: 8  
Edges: 12  
C (1)

7) Faces: 5  
Vertices: 5  
Edges: 8  
B (1)

8) Faces: 5  
Vertices: 6  
Edges: 9  
A (1)

A.  B.   
C.  D. 

Use the figure below to identify the cross-sections:



9) Vertical Cross-Section:  
rectangle (1)

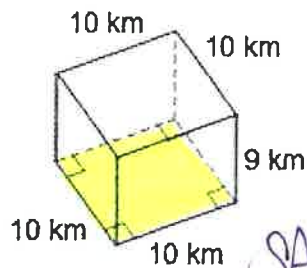
10) Horizontal Cross-Section:  
square (1)

Score: 10pts %

12.7 I can find the surface area of prisms and pyramids.

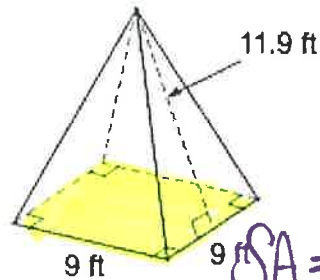
Find the surface area.

1)



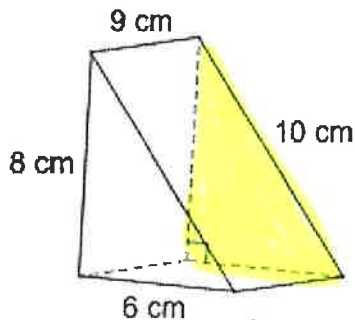
$$\begin{aligned}
 SA &= 2B + PH \\
 &= 2(bh) + (4s)H \\
 &= 2(10 \cdot 10) + (4 \cdot 10)9 \\
 &= 2(100) + (40)9 \\
 &= 200 + 360 \\
 &= 560 \text{ km}^2
 \end{aligned}$$

2)



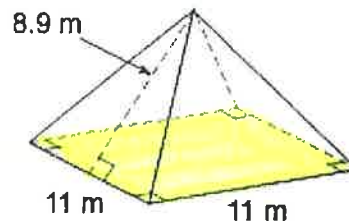
$$\begin{aligned}
 SA &= B + \frac{1}{2}Pl \\
 &= (bh) + \frac{1}{2}(4s)l \\
 &= (9 \cdot 9) + \frac{1}{2}(4 \cdot 9)(11.9) \\
 &= 81 + \frac{1}{2}(36)(11.9) \\
 &= 81 + 214.2 \\
 &= 295.2 \text{ ft}^2
 \end{aligned}$$

3)



$$\begin{aligned}
 SA &= 2B + PH \\
 &= 2\left(\frac{1}{2}bh\right) + (s_1 + s_2 + s_3)H \\
 &= 2\left(\frac{1}{2} \cdot 6 \cdot 8\right) + (6 + 8 + 10)(9) \\
 &= 2(24) + (24)(9) \\
 &= 48 + 216 \\
 &= 264 \text{ cm}^2
 \end{aligned}$$

4)



$$\begin{aligned}
 SA &= B + \frac{1}{2}Pl \\
 &= (bh) + \frac{1}{2}(4s)l \\
 &= (11 \cdot 11) + \frac{1}{2}(4 \cdot 11)(8.9) \\
 &= 121 + \frac{1}{2}(44)(8.9) \\
 &= 121 + 195.8 \\
 &= 316.8 \text{ m}^2
 \end{aligned}$$

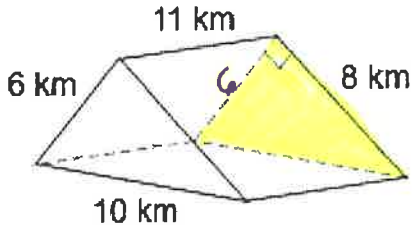
Score: 12 pts. %



12.8 I can find the volume of prisms and pyramids.

Find the volume of each figure below. Round the nearest whole number.

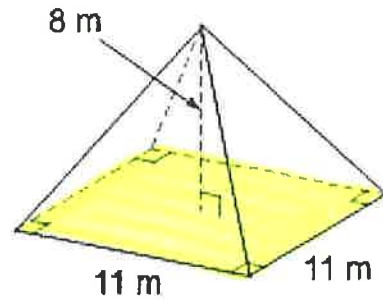
1)



$$\begin{aligned}
 V &= \frac{1}{2} B H \\
 &= \frac{1}{2} (b \cdot h) H \\
 &= \frac{1}{2} (6 \cdot 8) (10) \\
 &= (24) (10) \\
 &= 240 \text{ km}^3
 \end{aligned}$$

(3)

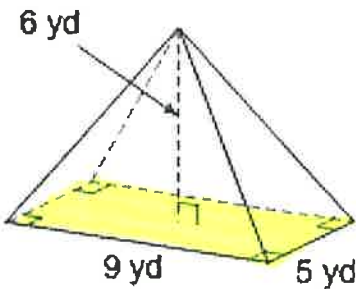
2)



$$\begin{aligned}
 V &= \frac{1}{3} B H \\
 &= \frac{1}{3} (b \cdot h) H \\
 &= \frac{1}{3} (11 \cdot 11) (8) \\
 &= \frac{1}{3} (121) (8) \\
 &\approx 323 \text{ m}^3
 \end{aligned}$$

(3)

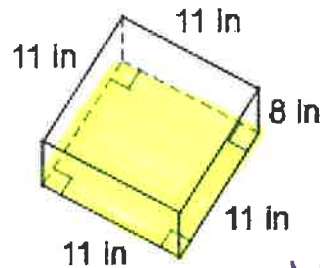
3)



$$\begin{aligned}
 V &= \frac{1}{3} B H \\
 &= \frac{1}{3} (b \cdot h) H \\
 &= \frac{1}{3} (9 \cdot 5) (6) \\
 &= \frac{1}{3} (45) (6) \\
 &= 90 \text{ yd}^3
 \end{aligned}$$

(3)

4)



$$\begin{aligned}
 V &= B H \\
 &= (b \cdot h) H \\
 &= (11 \cdot 11) (8) \\
 &= 968 \text{ in}^3
 \end{aligned}$$

(3)

Score: 12 pts. %

