Name __Key__   Date _____

Unit 8 – Review _____ out of 40 _____ %   Period _____

'se pi button for π. Round answers to the nearest hundredth.

Write and solve an equation to find the missing dimension of the circle.

1. Diameter = 16 cm (3 pts)   Radius = 192 mm (3 pts)
   Radius = ?   Diameter = ?

   $r = \dfrac{d}{2}$
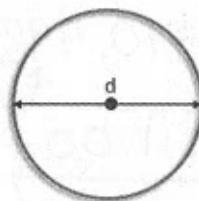
   $r = \dfrac{16}{2}$

   $\boxed{r = 8\,cm}$
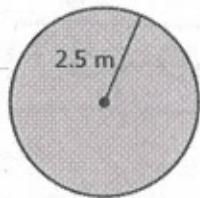
   $d = 2r$

   $d = 2(192)$

   $\boxed{d = 384\,mm}$

Find the circumference AND area of the circle. State your answer in terms of π.

2.   Circumference (5 pts)   Area (5 pts)

   2.5 m $C = 2\pi r$ $A = \pi r^2$

   $r = 2.5\,m$ $C = 2\pi(2.5)$ $A = \pi(2.5)^2$

                      $\boxed{C = 5\pi\,m}$ $A = \pi(6.25)$

                                                         $\boxed{A = 6.25\pi\,m^2}$

3. A tetherball court is in the shape of a circle. The circumference is about 20π feet.

   a. What is the radius of the court? (3 pts)   b. What is the area of the court? (3 pts)

   $C = 2\pi r$ $A = \pi r^2$

   $\dfrac{20\pi}{2} = \dfrac{2\pi r}{2}$ $A = \pi(10)^2$

   $\dfrac{10\pi}{\pi} = \dfrac{\pi r}{\pi}$ $A = \pi(100)$

   $10 = r$ $A \approx 314.159$
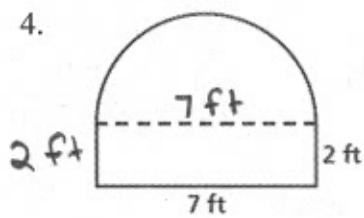
   $\boxed{r = 10\,ft}$ $\boxed{A \approx 314.16\,ft^2}$

Find the perimeter OR area of the figures below.

4.

7 ft

2 ft   2 ft

7 ft

$d = 7 \, ft$

Perimeter (5 pts)

Semicircle

$$C = \frac{\pi d}{2}$$

$$C = \frac{\pi(7)}{2}$$

$C \approx 10.99 \circledS$

$\boxed{C \approx 11.00 \, ft}$

Rectangle (No top)

$P = \text{Sum of Sides}$

$P = 2 + 7 + 2$
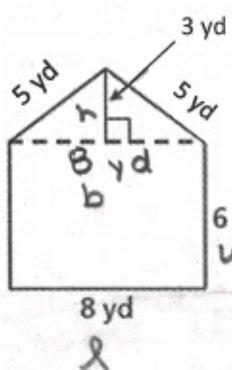
$\boxed{P = 11 \, ft}$

Total Perimeter

$P \approx 11 + 11$

$\boxed{P \approx 22 \, ft}$

5.

3 yd

5 yd   5 yd
      h
     8 yd
      b
              6 yd
              w

8 yd
ℓ

Area (5 pts)

Triangle

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

$A = \frac{1}{2}(8)(3)$

$\boxed{A = 12 \, yd^2}$

Rectangle

$A = \ell w$

$A = 8(6)$
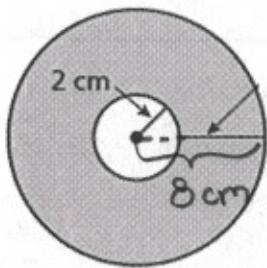
$\boxed{A = 48 \, yd^2}$

Total Area

$A = 12 + 48$

$\boxed{A = 60 \, yd^2}$

6. Find the area of the shaded region of the figure. (8 pts)

2 cm   6 cm

8 cm

Large Circle

$A = \pi r^2$

$A = \pi(8)^2$

$A = \pi(64)$

$A \approx 201.06 \circled{1}$

$\boxed{A \approx 201.06 \, cm^2}$

Small Circle

$A = \pi r^2$

$A = \pi(2)^2$

$A = \pi(4)$

$A \approx 12.56 \circled{6}$

$\boxed{A \approx 12.57 \, cm^2}$

Area Shaded

$A \approx 201.06 - 12.57$

$\boxed{A \approx 188.49 \, cm^2}$