Date: _____

Circle: Applications for Circumference and Area of a Circle

1. State some real life uses for circumference of a circle:

_____

2. State some real life uses for area of a circle:

_____

3. REVIEW OF AREA FORMULAE:

Area of Rectangle = base x height
= b x h

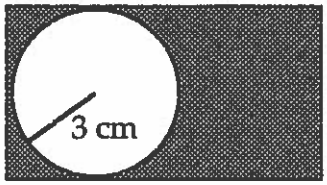
Area of Square = side x side
= s^2

Area of Triangle = (base x height) ÷ 2
= $\frac{b \times h}{2}$

Area of Circle = πr^2

3. CALCULATING UNIQUE AREA PROBLEMS

a. Calculate the area of the shaded region.



These types of problems seem difficult because you are asked to find the area of a shape that is irregular (i.e. not a square, rectangle, triangle, nor a circle). We call these types of problems SUBTRACTIVE AREA PROBLEMS because a little subtraction is involved to find the area.

SOLUTION:

TYPE: Subtractive

STATEMENT: $A_{SHADED\ REGION} = A_{RECTANGLE} - A_{CIRCLE}$

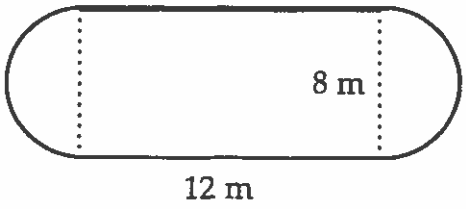
$A_{RECTANGLE} = b \times h$
$= $ _____
$= $ _____

$A_{CIRCLE} = \pi r^2$
$= 3.14 \times (3\ cm)^2$
$= $ _____
$= $ _____

$A_{SHADED\ REGION} = A_{RECTANGLE} - A_{CIRCLE}$
$= $ _____ - _____
$= $ _____

ANSWER: The area of the shaded region is _____.

b. Calculate the area of the skating rink.



These types of problems seem difficult because you are asked to find the area of a shape that is irregular (i.e. not a square, rectangle, triangle, nor a circle). We call these types of problems ADDITIVE AREA PROBLEMS because if you look closely, you can see that this irregular shape was made by combining or "adding" shapes that are regular. (Can you spot the rectangle and the circle?)

SOLUTION:

TYPE: Additive

STATEMENT: $A_{\text{SKATING RINK}} = A_{\text{RECTANGLE}}$ ② + A_{CIRCLE} ① & ③

$A_{\text{RECTANGLE}} = b \times h$

$= \_\_\_\_\_$

$= \_\_\_\_\_$

$A_{\text{CIRCLE}} = \pi r^2$

$= 3.14 \times (\_\_\_\_\_)^2$

$= \_\_\_\_\_$

$= \_\_\_\_\_$

$A_{\text{SKATING RINK}} = A_{\text{RECTANGLE}} + A_{\text{CIRCLE}}$

$= \_\_\_\_\_ + \_\_\_\_\_$

$= \_\_\_\_\_$

ANSWER: The area of the skating rink is _____.

Calculate the perimeter of the skating rink.
REMEMBER: Perimeter means the distance around an object, not inside it!