8.3 Area of Circles

EQ: How can you find the area of a circle?

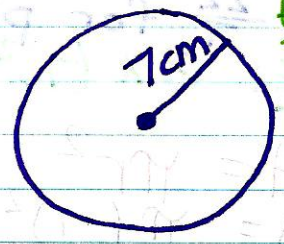
Area of a Circle: the amount of space inside the circle.

Formula: $A = \pi r^2$

area — pi — radius squared

Use $\frac{22}{7}$ for pi

Example 1: Finding the area of a circle.



Estimate: $3 \times (7^2) \approx 3 \times 50 = 150$

$A = \pi r^2$

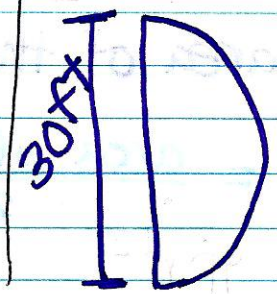
$A = \pi (7)^2$

$A = \frac{22}{1} \cdot \frac{49}{7}$

$A = 22 \cdot 7$

$A = 154\ cm^2$

Example 2: Find the area of the semi-circle. Use 3.14 for pi.



Side work:

$d = 30$

$r = 15$

area of semi-circle $= \frac{\text{area of } O}{2}$

$A_{\text{semi-circle}} = \frac{\pi r^2}{2}$

$A = \frac{\pi (15)^2}{2}$

$A = \frac{225\pi}{2}$

$A = \frac{225(3.14)}{2}$

$A = \frac{706.5}{2}$

$A = 353.25\ ft^2$