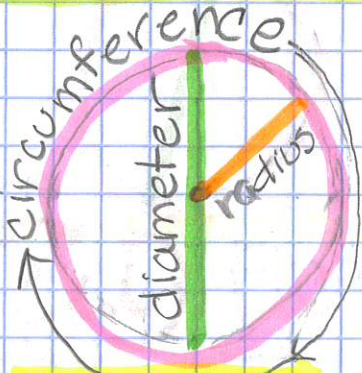


8.1 Circles & Circumferences

E.Q: How do we find the circumference of a circle?



circumference: distance around a circle (w/ polygons, called the perimeter.)

diameter: distance all the way across the middle. Twice the radius!

$$C = \pi d$$

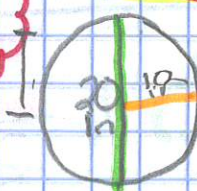
radius: any line from the center to the edge of the circle HALF the diameter

π (pi) \rightarrow $\frac{\text{circumference}}{\text{diameter}}$ $\pi = \frac{C}{d}$

Circumference $C = \pi d$

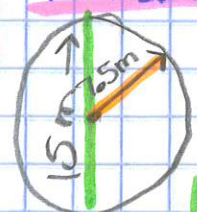
Use 3.14 or $\frac{22}{7}$ \leftarrow use only when 7 cancels

Ex. 1



Find diameter
 $d = 20 \text{ in}$
 $r = \frac{d}{2} = \frac{20}{2} = 10 \text{ in}$

Ex. 2



Find Radius
 $r = 7.5 \text{ m}$
 $d = 2r = 2(7.5)$
 $d = 15 \text{ m}$

Ex. 3



Find Circumference

$C = \pi d$
 $C = 3.14(105)$
 $C = 329.7 \text{ miles}$

Ex. 4

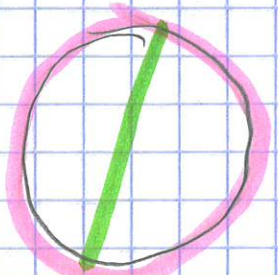


$r = 29$ $d = 29(2) = 58$

$C = \pi d$
 $C = 3.14(58)$
 $C = 182.12$

Ex. 5

Find diameter or radius from the circumference

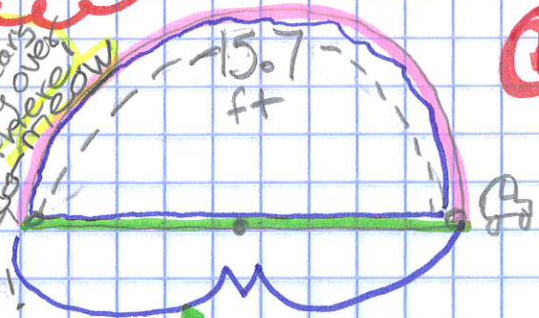


$C = 55$ What's the diameter?

$C = \pi d$ $55 = 3.14 d$ $d = 17.515$
 $\frac{55}{3.14} = \frac{3.14 d}{3.14}$ ≈ 17.52

Ex. 6

Find the Perimeter of a Semi-Circle



① Find the circumference of what would be the whole circle, then DIVIDE by 2

$C = 3.14 (10)$

$C = 31.4 \text{ ft}$

↑ entire circle

$d = 10 \text{ ft}$

$\frac{C}{2} = \text{semi-circle}$

↑ half

$\frac{C}{2} = \frac{31.4}{2}$

$\frac{C}{2} = 15.7 \text{ ft}$

② Add the distance of the diameter.

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

$15.7 + 10 = 25.7 \text{ ft}$

Perimeter of a Semi-Circle

$\frac{C}{2} + d$