Nov. 27

Unit

Circles

Warm-Up

Date: _____

Review for Assessments

1. Samantha has 10.875 L of water.
   She pours 0.5 L into several plastic bottles.
   How many bottles can she fill? How much water is left over?

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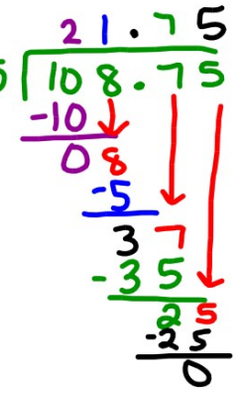
10.875 ÷ 0.5 →



21 x 0.5 = 10.5 L

10.875-10.5 = 0.375

You will fill 21 bottles with 0.375 L left.

2. No calculators.

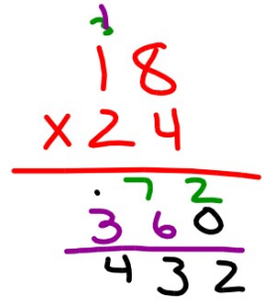
a) ~~-~~5 x ~~8~~ x 7 ~~x~~ 20

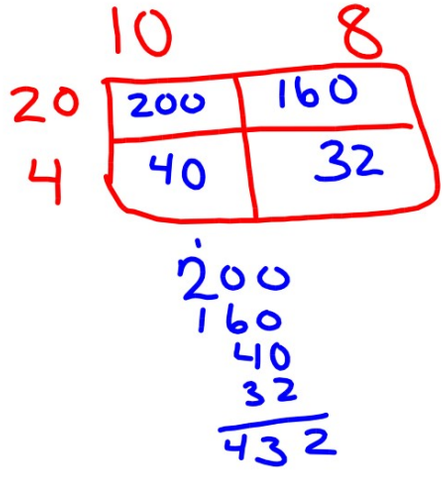
100 x 56

5600

b) -18 x (-24)

+432





Circles

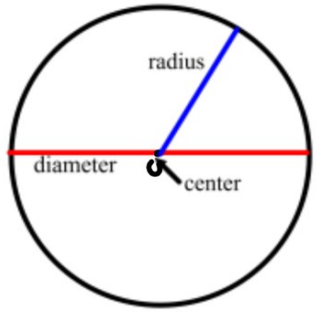
A circle is a shape where all points are the same distance(or equidistant) from the center.

From the math dictionary - A circle is a round flat two-dimensional shape where all points on the circumference are the same distance from the center.

The longest line through a circle, must pass through the center of the circle, this is the diameter of the circle.

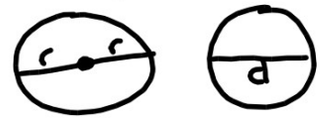
The distance from the center of the circle to the outside of the circle is called the radius.

The circumference is the distance around (or perimeter) of the circle.



There is an infinite (unlimited number) of diameters and radii (plural for radius) that can be drawn.

What is the relationship between the radius and the diameter?



The diameter is 2 times the radius → $d = 2r$

or

The radius is half the diameter → $r = \frac{d}{2}$

means divide

$d = 2 \times r$ $r = \frac{d}{2}$

1a) Find the radius if the diameter is 18 cm

$r = ?$
$d = 18\text{cm}$

$r = \frac{d}{2}$
$= \frac{18\text{cm}}{2}$
$r = 9\text{cm}$

b) Find the diameter if the radius is 12 cm

$r = 12\text{cm}$
$d = ?$

$d = 2 \times r$
$= 2 \times (12\text{cm})$
$d = 24\text{cm}$

On quiz

20 cm

Circular plates with diameter 20 cm are placed side by side on a table.

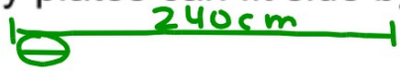
The table measures 2.4 m by 1.2 m.

×100 ×100
240cm by 120cm

a) What is the length of the table in centimeters?

$2.4\text{ m} \times \frac{100\text{cm}}{1\text{m}} = 240\text{cm}$

b) How many plates can fit side by side along the length of the table?



240cm ÷ 20cm = 12 plates

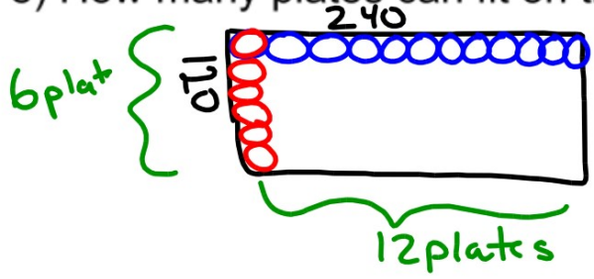
c) What is the width of the table in centimeters?

$1.2\text{ m} \times \frac{100\text{cm}}{1\text{m}} = 120\text{cm}$

d) How many plates can fit side by side along the width of the table?

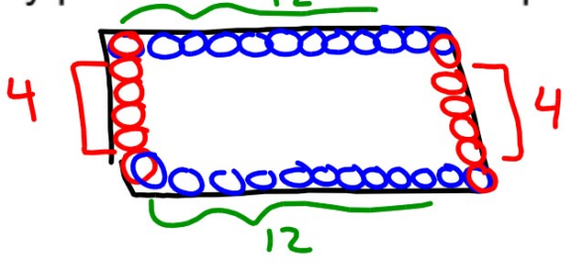
120cm ÷ 20cm
= 6 plates

e) How many plates can fit on the table?



Total Plates
6 x 12

f) How many plates can fit around the perimeter of the table?



32 plates

Class / Homework

$r = \frac{d}{2}$ $d = 2 \times r$

Ws 131

1 to # 5

Extra is #6, #7

Ws 131

1.

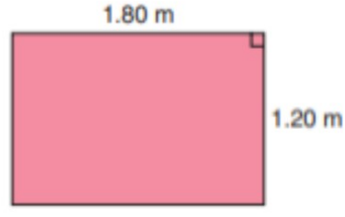
Sketch a circle with each radius.

a) 4cm **b)** 8 cm c) 7cm

Label the radius, then find the diameter.

2) **a)** A circle has diameter 3.8 cm. What is the radius? **b)** A circle has radius 7.5 cm. What is the diameter?

3) A circular tabletop is to be cut from a rectangular piece of wood that measures 1.20 m by 1.80 m.
What is the radius of the largest tabletop that could be cut?
Justify your answer. Include a sketch.

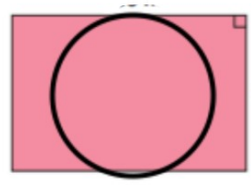


4) A glass has a circular base with radius 3.5 cm.
A rectangular tray has dimensions 40 cm by 25 cm.
How many glasses will fit on the tray?
What assumptions did you make?

5) Fill in the chart

	Radius	Diameter
a)		4.6 cm
b)	7.5 cm	
c)	21 cm	
d)	80 cm	
e)		23 cm

6) A circular tabletop is to be cut from a rectangular piece of wood that measures 2.4 m by 1.6 m. What is the radius of the largest tabletop that could be cut? Justify your answer. Include a sketch



7) A glass has a circular base with radius 6 cm.

A rectangular tray has dimensions 60 cm by 80 cm.

How many glasses will fit on the tray? (Show work)