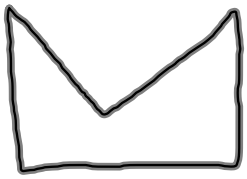
Bellwork 08/31/2011

An 11-gon is called a hendecagon!

1. Draw a concave pentagon.



Geometry
1.7 Find Perimeter, Circumference, and Area
Standard(s): 4

Vocabulary:

1. **Perimeter: Distance around a figure.**

2. **Area: Amount of surface covered by a figure.** m^2

3. **Circumference: Distance around a circle.**

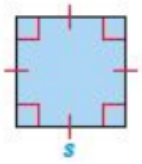
KEY CONCEPT *For Your Notebook*

Formulas for Perimeter P, Area A, and Circumference C

Square
side length s

$P = 4s$

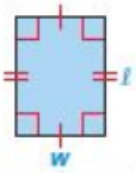
$A = s^2$



Rectangle
length ℓ and width w

$P = 2\ell + 2w$

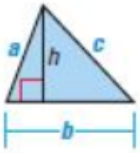
$A = \ell w$



Triangle
side lengths a, b, and c, base b, and height h

$P = a + b + c$

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



Circle
diameter d and radius r

$C = \pi d = 2\pi r$

$A = \pi r^2$

PI (π) is the ratio of a circle's circumference to its diameter.

Find the Perimeter and Area of a Rectangle

Find the perimeter and area of the rectangle shown.

Pull

Rectangle:

Perimeter=2l+2w
Area=l·w

$P = 2(9) + 2(12)$
$18 + 24$
$P = 42$ ft

$A = 9 \cdot 12$
$A = 108$ ft^2

The area of a rectangle is 551 in^2, and its width is 19 inches. Find the length of the rectangle.

$A = l \cdot w$
$\frac{551}{19} = \frac{l \cdot 19}{19}$
$l = 29$ in

48 in.

The perimeter of a rectangle is ~~80~~ 48 in. The width is 3 times the length. Find the length of the rectangle.

length= $x = 6$ in
width= $3x = 18$ in

$P = 2l + 2w$
$48 = 2(x) + 2(3x)$
$48 = 2x + 6x$
$8x = 48$
$x = 6$

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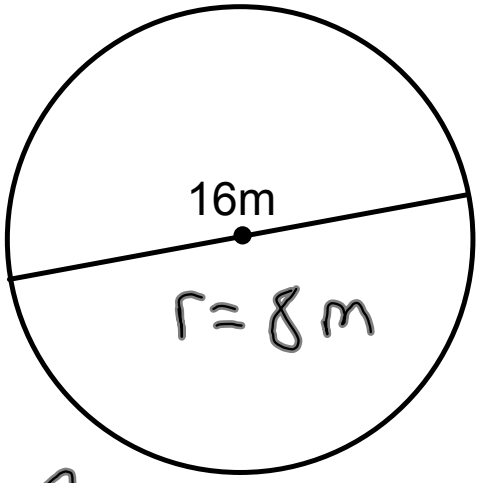
Find the Circumference and Area of a Circle

Find the circumference and area of the circle. Round to the nearest tenth.



Pull

Circle:

Circumference=2πr

Area=πr^2

$C = 2 \cdot \pi \cdot 8$

$C = 50.3\ m$

$A = \pi \cdot 8^2$

$A = 64 \cdot \pi$

$A = 201.1\ m^2$

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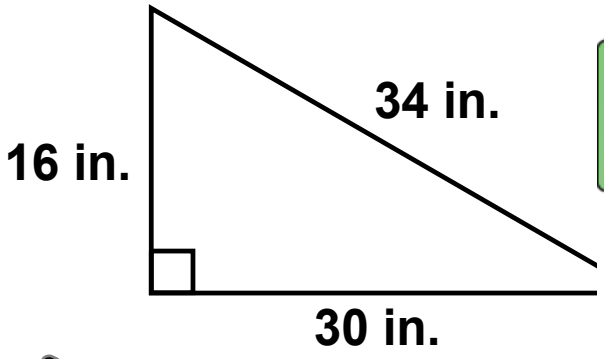
Finding Perimeter and Area of a Triangle

Find the area and perimeter of the triangle.



Pull

Triangle:

$\text{Perimeter} = s_1 + s_2 + s_3$

$\text{Area} = \frac{b \cdot h}{2}$

$P = 16 + 34 + 30$

$P = 80 \text{ in.}$

$A = \frac{30 \cdot 16}{2}$

$A = 240 \text{ in}^2$

The base of a triangle is 14 cm. Its area is 42 cm^2. Find the height of the triangle.

$A = \frac{b \cdot h}{2}$

$2 \cdot 42 = \frac{14 \cdot h}{2} \cdot 2$

$\frac{84}{14} = \frac{14h}{14}$

$h = 6 \text{ cm}$

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Unit Conversions

Complete the unit conversions.

Pull

54 cm^2 = 0.54 m^2

S → L ÷

78 $in.^2$ = 6.5 ft^2

S → L ÷

23 yd^2 = 69 ft^2

L → S x

96 mm^2 = _____ cm^2

3000 m^2 = _____ km^2

15 ft^2 = _____ $in.^2$

Homework Assignment

Worksheet 1.7B

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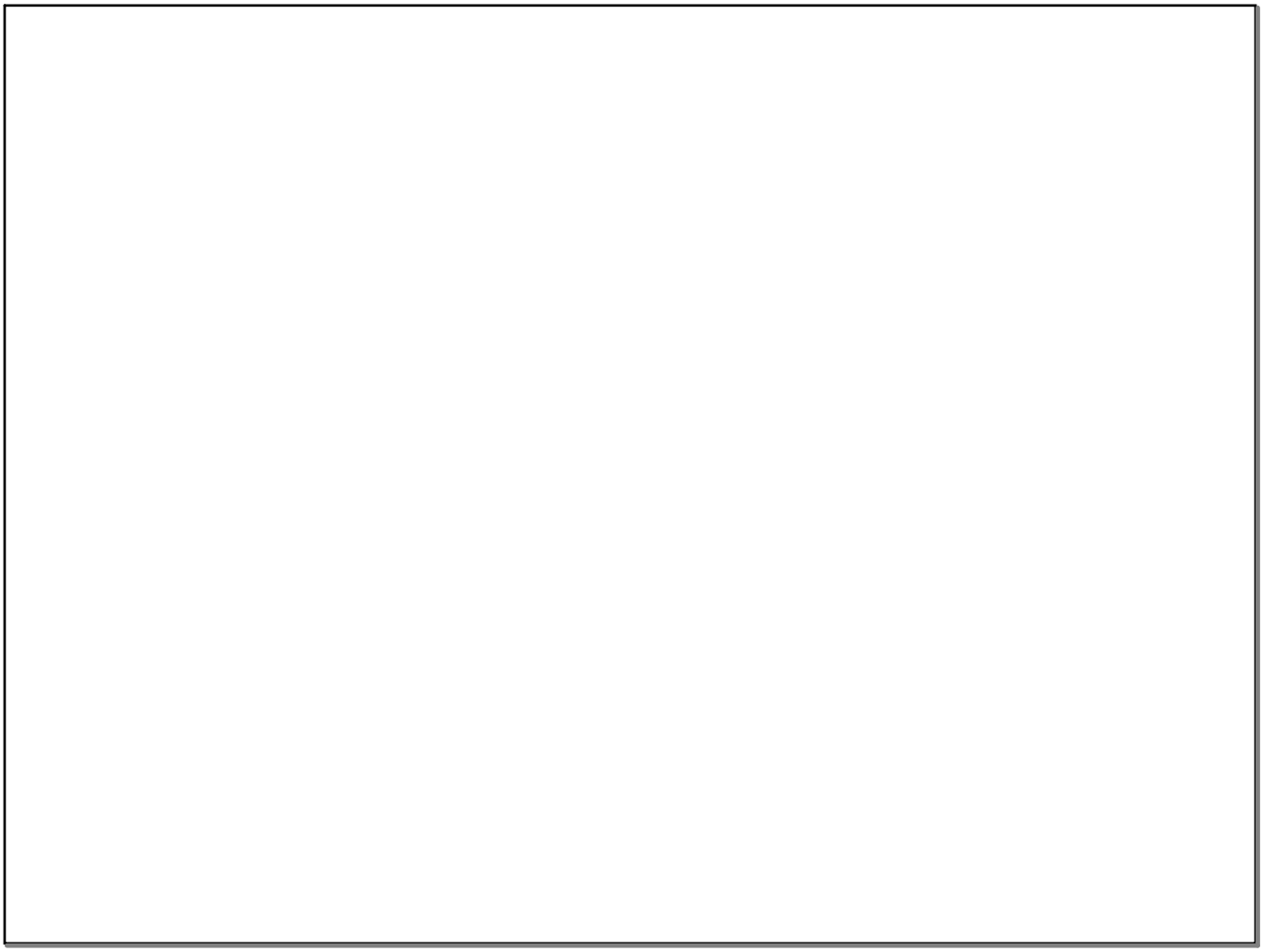

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