Miranda Aviles

perimeter is the distance around a geometric figure.
For a circle, the distance around is given a special name its circumference.
Area is the number of square units that a geometric figure encloses.

Section 2.1 Perimeter, Circumference, and Area

Complete the outline as you view Video Lecture 2.1. Pause the video as needed to fill in the blanks. Then press Play to continue. Also, circle your answer to each numbered exercise.

Objective 1 Find the Perimeter or Circumference of Basic Shapes

P = s+s+s+s = 4·s

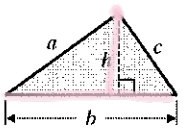
h = altitude, ⊥ segment from base to opposite vertex

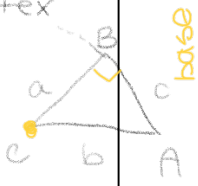
Perimeter, Circumference, and Area Formulas

Square
side length s
$P = 4s$
$A = s^2$
4 right ∠s
4 congruent sides

quadrilateral

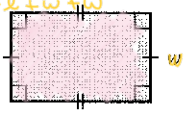
Triangle
side lengths a, b, and c, base b, and height h
$P = a + b + c$
$A = \frac{1}{2}bh$





Rectangle
length l and width w
$P = 2l + 2w$ or $2(l + w)$
$A = lw$

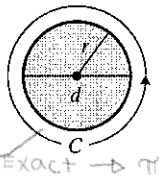
P = l+l+w+w



4 right angles

Circle
radius r and diameter d
$C = \pi d$, or $C = 2\pi r$
$A = \pi r^2$

π is irrational



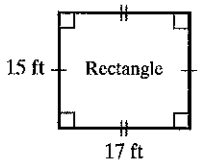
2r = d

exact → π
approx → 3.14, π calc, & round

Work Video Exercise 1 with me.

Find the perimeter.

1.



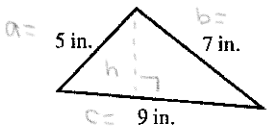
P = 2l + 2w
P = 2(17) + 2(15)
P = 34 + 30
P = 64 ft

Area = square unit (ex. ft²)
Perimeter = linear unit

Pause and work Video Exercise 2.

Find the perimeter.

2.



P = a+b+c
P = 5+7+9
P = 21 inches

Play and check.

Work Video Exercise 3 with me.

distance around a circle

Find the circumference of the circle. Give the exact circumference and then an approximation.

Use $\pi \approx 3.14$.

3.

$C = 2\pi r$

$C = 2\pi(8)$ miles

$C = 16\pi$ miles → exact!

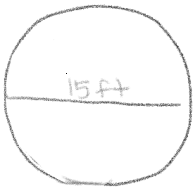
$C \approx 50.64$ miles → approximate

↑ * round to nearest hundreth *

Pause and work Video Exercise 4.

Give an exact answer and a one-decimal place approximation.

4. Wyley Robinson just bought a trampoline for his children to use. The trampoline has a diameter of 15 feet. If Wyley wishes to buy netting to go around the outside of the trampoline, how many feet of netting does he need?



$C = \pi d$

$C = 15\pi$ feet → exact

$C \approx 41.12$ feet → appoximate

↳ rounded to nearest hundreth

Play and check.

0. ___ ___ ___

↑ ↑ ↑

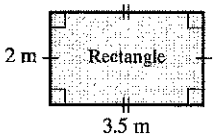
tenth hundreth thousandths

Objective 2 Find the Area of Basic Shapes

Work Video Exercise 5 with me.

Find the area of the geometric figure.

5.



$A = l \cdot w$

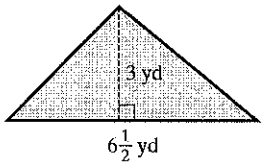
$A = 3.5\,(2)$

$A = 7\text{ m}^2$

Pause and work Video Exercise 6.

Find the area of the geometric figure.

6.



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

$A = \frac{1}{2}\left(\frac{13}{2}\right)(3)$

$A = \frac{39}{4}\text{ yds}^2$

$A = 9.75\text{ yds}^2$ → exact b/c we did not round

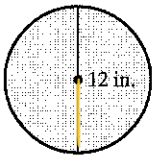
Play and check.

Section 2.1 Perimeter, Circumference, and Area

Work Video Exercise 7 with me.

Find the area of the geometric figure. Give an exact answer and use the approximation 3.14 for π to approximate the area.

7.



$2r = d = 12$

$r = \frac{12}{2} = 6$

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

$A = \pi r^2$

$A = \pi (6)^2$

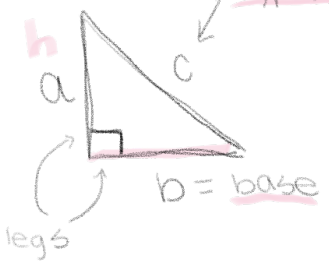
$A = 36\pi \text{ in}^2$ – exact

$A \approx 113.10 \text{ in}^2$ – approx.

Remember:

1) Perimeter & circumference are measured in units

2) Area is measured is square units.



$A = \frac{1}{2} b \cdot h = \frac{1}{2} \cdot b \cdot a$