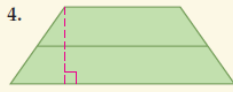**Exercises** Choose the formula to find the area of each shaded figure.

1.

2.

3.
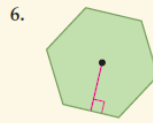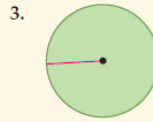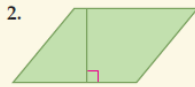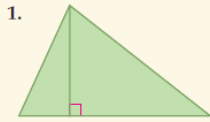
a. $A = \pi r^2$

b. $A = \frac{N}{360} \pi r^2$

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

4.

5.

6.

d. $A = \frac{1}{2}Pa$

e. $A = bh$

f. $A = \frac{1}{2}h(b_1 + b_2)$

Name the shape (or shaded portion) then determine its formula for its area.
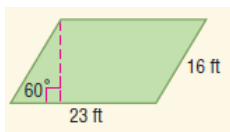
1._____   4._____

2._____   5._____

3._____   6._____

*Do some research! Use your book or the internet.

Area of a parallelogram.

Formula: _____

Find the area.

16 ft
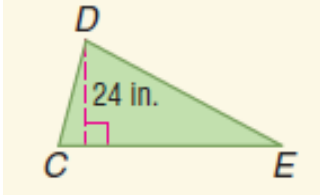
60°

23 ft

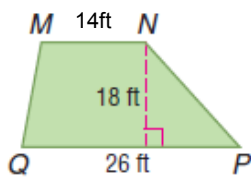# Area of a triangle.

Formula: _____

Triangle *CDE* has an area of
336 square inches. Find *CE*.

D

24 in.

C   E

Area of a trapezoid.

Formula: _____

Find the area.

M   14ft   N

18 ft

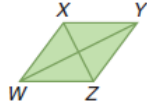Q   26 ft   P

Area of a rhombus.

Formula: _____

Find the area.

WY is 20 meters long.

XZ = 10 meters.

Area of a sector (portion of a circle).
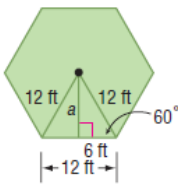
Formula: _____

r = 5

arc measure is 50 degrees.

Area of a regular polygon. (Tricky!)

Formula: _____

*Notice the variable a is the **apothem**. You can find this length using Pythagorean theorem!*

$$A = \frac{1}{2}Pa \qquad \text{Area of a regular polygon}$$

$$= \frac{1}{2}(72)(6\sqrt{3}) \qquad P = 72, a = 6\sqrt{3}$$

$$= 216\sqrt{3} \qquad \text{Simplify.}$$

$$\approx 374.1$$

The area of the regular hexagon is 374.1 square feet to the nearest tenth.

Find the area of a regular pentagon with perimeter of 100 inches
Determine what each individual side measures in order to find the apothem. Draw a picture!

Challenge. Find the area.