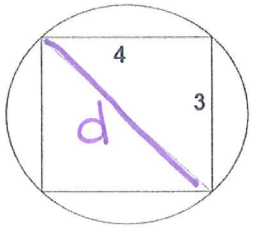
Name: Key

Final Exam Prep Individual Practice

Area Exercises

Directions: Show answers in terms of PI, then round your answers.

1. A 4-centimeter by 3-centimeter rectangle is inscribed in a circle. What is the area of the circle, in square centimeters?



$4^2+3^2=d^2$

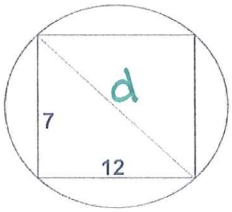
$d=5$

$r=2.5\,cm$

$A=\pi(2.5)^2$

$A=19.6\,cm^2$

2. A 12-centimeter by 7-centimeter rectangle is inscribed in a circle. What is the area of the circle, in square centimeters?



$7^2+12^2=d^2$

$d=13.9$

$r=6.95$

$A=\pi(6.95)^2$

$A=151.7\,cm^2$

3. Find the area of a circle with a circumference of 42π.

$C=2\pi r$

$\frac{42\pi}{2\pi}=\frac{2\pi r}{2\pi}$

$r=21$

$A=\pi(21)^2$

$A=1385.4$

4. Find the area of a circle with a circumference of 30π.

$30\pi=2\pi r$

$r=15$

$A=\pi(15)^2$

$A=706.9$

5. Find the area of a circle with a circumference of 80π.

$80\pi=2\pi r$

$r=40$

$A=\pi 40^2$

$A=5026.5$

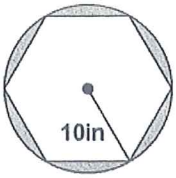
6. Find the area of a circle with a circumference of 10π.

$r=5$

$A=\pi 5^2$

$A=78.5$

7. Find the area of the regular hexagon.



$A_S = \pi 10^2 - 6\,\frac{1}{2}\,10 \cdot 10 \sin(60)$

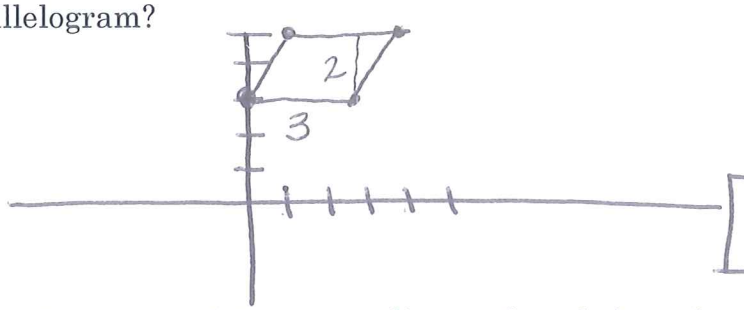
$A_S = 54.4 in^2$

8. Find the area of the regular hexagon.

$A_S = \pi 18^2 - 6\,\frac{1}{2}\,18 \cdot 18 \sin(60)$

$A_S = 176.1 cm^2$

9. In the standard (x, y) coordinate plane below, the points (0,3), (1,5), (4,5), and (3,3) are the vertices of a parallelogram. What is the area, in square units, of the parallelogram?

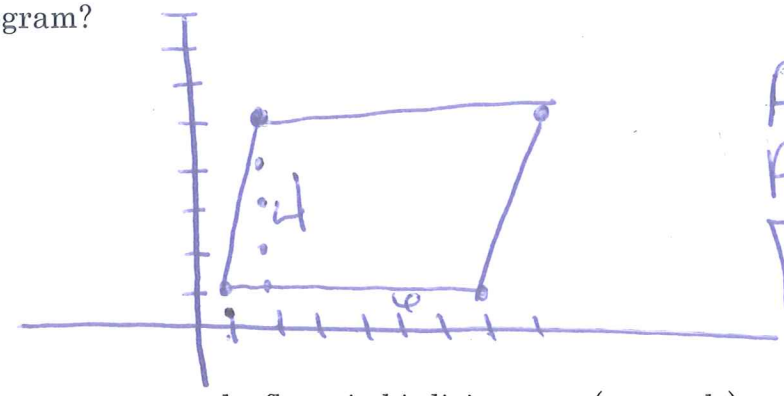


$A = b \cdot h$

$A = 3 \times 2$

$A = 6 units^2$

10. In the standard (x, y) coordinate plane below, the points (2,5), (8,5), (7,1), and (1,1) are the vertices of a parallelogram. What is the area, in square units, of the parallelogram?

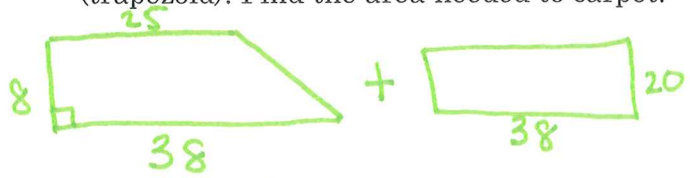


$A = b \cdot h$

$A = 6 \cdot 4$

$A = 24 units^2$

11. Paul wants to carpet the floors in his living room (rectangle) and his bedroom (trapezoid). Find the area needed to carpet.



$\frac{1}{2} 8 (25+38) + 38 \times 20$

$A = 1012 ft^2$

$28 - 20 = 8 ft$