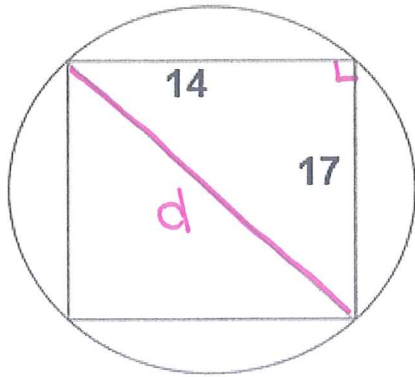


Name: key

Final Exam Prep Practice

Area Examples

1. A 14-centimeter by 17-centimeter rectangle is inscribed in a circle. What is the area of the circle, in square centimeters?



Find d by pyth. Thm. $\text{Area} = \pi r^2$

$$14^2 + 17^2 = d^2$$

$$d = \sqrt{485}$$

$$d = 22.0 \text{ cm}$$

$$r = 11 \text{ cm}$$

$$A = \pi (11)^2$$

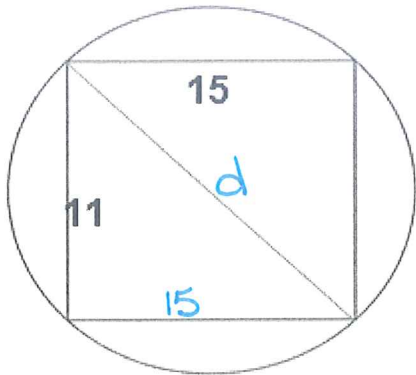
$$A = 121\pi \text{ cm}^2$$

OR

$$A = 380.1 \text{ cm}^2$$

You Try:

2. An 11-centimeter by 15-centimeter rectangle is inscribed in a circle. What is the area of the circle, in square centimeters?



$$11^2 + 15^2 = d^2$$

$$d = 18.6 \text{ cm}$$

$$r = 9.3 \text{ cm}$$

$$A = \pi r^2$$

$$A = \pi (9.3)^2$$

$$A = 271.7 \text{ cm}^2$$

3. Find the area of a circle with a circumference of 34π .

$$C = 2\pi r$$
$$\frac{34\pi}{(2\pi)} = \frac{2\pi r}{(2\pi)}$$

$$r = 17$$

$$A = \pi r^2$$

$$A = \pi 17^2$$

$$A = 289\pi$$
$$A \approx 907.9$$

4. You Try: Find the area of a circle with a circumference of 60π .

$$\frac{60\pi}{2\pi} = \frac{2\pi r}{2\pi}$$

$$r = 30$$

$$A = 900\pi$$

$$A = 2827.4$$

$$A = 30^2\pi$$

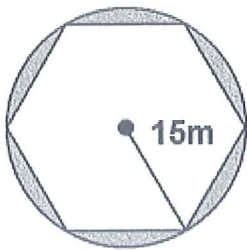
5. Find the area of the regular hexagon.



$$A_s = \pi 12^2 - 6 \cdot \frac{1}{2} 12 \cdot 12 \sin(60)$$

$$A_s = 78.3 \text{ m}^2$$

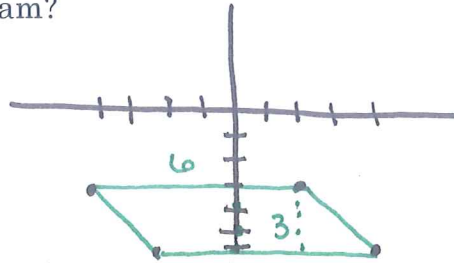
6. You Try: Find the area of the regular hexagon.



$$A_s = \pi 15^2 - 6 \cdot \frac{1}{2} 15 \cdot 15 \sin(60)$$

$$A_s = 122.3 \text{ m}^2$$

7. In the standard (x, y) coordinate plane below, the points $(-4, -3)$, $(2, -3)$, $(4, -6)$, and $(-2, -6)$ are the vertices of a parallelogram. What is the area, in square units, of the parallelogram?

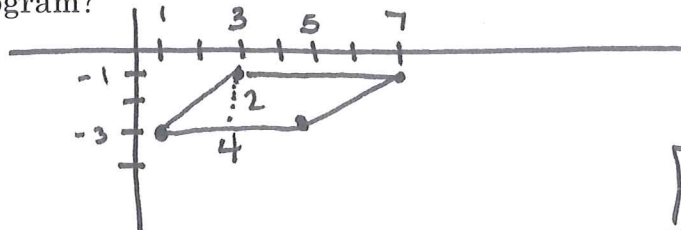


$$A = b \cdot h$$

$$A = 6 \cdot 3$$

$$A = 18 \text{ units}^2$$

8. You Try: In the standard (x, y) coordinate plane below, the points $(3, -1)$, $(7, -1)$, $(5, -3)$, and $(1, -3)$ are the vertices of a parallelogram. What is the area, in square units, of the parallelogram?

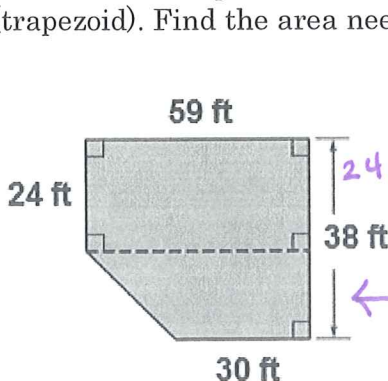


$$A = b \cdot h$$

$$A = 4 \cdot 2$$

$$A = 8 \text{ units}^2$$

9. Max wants to put in hardwood floors in his kitchen (rectangle) and his dining room (trapezoid). Find the area needed to put in wood floors.



$$A = b \cdot h + \frac{1}{2} h (b_1 + b_2)$$

$$A = 59 \times 24 + \frac{1}{2} 14 (59 + 30)$$

$$A = 2039 \text{ ft}^2$$