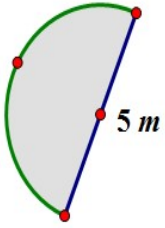# Circle Word Problems Worksheets
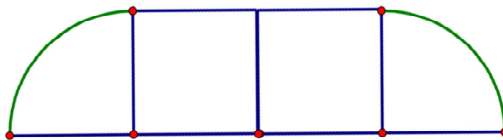
1. Mark created a flower bed that is semicircular in shape. The diameter of the flower bed is $5\ m$

a) What is the perimeter of the flower bed? (Approximate π to be 3.14.)

5 m

b) What is the area of the flower bed? (Approximate π to be 3.14.).
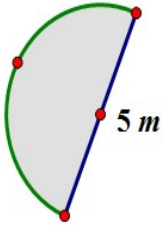
2. A window manufacturer designed a set of windows for the top of a two-story wall. If the window is comprised of 2 squares and 2 quarter circles on each end, and if the length of the span of windows across the bottom is 12 feet, approximately how much glass will be needed to complete the set of windows?

Circle Word Problems Worksheets

1. Mark created a flower bed that is semicircular in shape. The diameter of the flower bed is $5\ m$

a) What is the perimeter of the flower bed? (Approximate π to be 3.14.)

The perimeter of this flower bed is the sum of the diameter and one-half the circumference of a circle with the same diameter.

$$P = diameter + \frac{1}{2}\pi \cdot diameter$$

$$P \approx 5\ m + \frac{1}{2} \cdot 3.14 \cdot 5\ m$$

$$P \approx 12.85\ m$$

b) What is the area of the flower bed? (Approximate π to be 3.14.).

$$A = \frac{1}{2}\pi\ (2.5\ \text{m})^2$$
$$A = \frac{1}{2}\pi\ (6.25\ \text{m}^2)$$
$$A \approx 0.5 \cdot 3.14 \cdot 6.25\ \text{m}^2$$
$$A \approx 9.8\ \text{m}^2$$

2. A window manufacturer designed a set of windows for the top of a two-story wall. If the window is comprised of 2 squares and 2 quarter circles on each end, and if the length of the span of windows across the bottom is 12 feet, approximately how much glass will be needed to complete the set of windows?
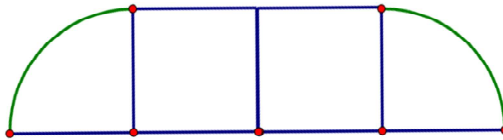
The area of the windows is the sum of the areas of the two quarter circles and the two squares that make up the bank of windows. If the span of windows is 12 feet across the bottom, then each window is 3 feet wide on the bottom.

The radius of the quarter circles is 3 feet, so the area for one quarter circle window is $A = \frac{1}{4}\pi \cdot (3\ ft)^2$, or $A \approx 7.065\ ft^2$. The area of one square window is $A = (3\ ft)^2$, or $9\ ft^2$.

The total area is $A = 2(area\ of\ quarter\ circle) + 2(area\ of\ square)$, or $A \approx (2 \cdot 7.065\ ft^2) + (2 \cdot 9\ ft^2) \approx 32.13\ ft^2$.

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