

Math by Design

Flossville Town Park Selected Response Questions **Answer Key**

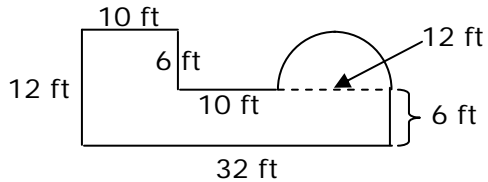
1. The city planner has provided a design for the new police station. The scale model is 12 inches long and 15 inches wide. The actual station will be 60 feet long. What is the width of the new police station?
A. 60 feet
B. 75 feet
C. 90 feet
D. 120 feet
2. A high energy drink comes in a can that has a height of 15 cm and has a base with a radius of 6 cm. What is the approximate volume of this can?
A. 283 cm^3
B. 566 cm^3
C. 1696 cm^3
D. 4241 cm^3
3. An empty rain barrel has a circular base with a diameter of 0.7 meters and has a height of 1.2 meters. A run-off from a recent rain filled the barrel to a height of 0.4 m. About how many cubic meters of rainwater are in the barrel?
A. 0.154 m^3
B. 0.462 m^3
C. 0.616 m^3
D. 1.847 m^3
4. A juice can base has a radius of 6.5 cm and the can has a height of 25.2 cm. If it still has juice filling it to a height that is 8 cm from the top of the can, about how many liters of juice are still in the can? (1 liter of juice has the same volume as 1,000 cubic centimeters.)
A. 0.70 L
B. 1.06 L
C. 2.28 L
D. 3.34 L
5. A rectangle has a length of 8 meters and a width of 7 meters. What is the length of a diagonal of the rectangle to the nearest hundredth of a meter?
A. 3.87 m
B. 5.48 m
C. 10.63 m
D. 15.00 m
6. What is the area of a rectangular region that is 9.8 cm long and 6.5 cm wide?
A. 16.3 cm^2
B. 31.85 cm^2
C. 32.6 cm^2
D. 63.7 cm^2
7. A right triangle has a base 84 cm long and its hypotenuse is 91 cm long. What is the height of the triangle?
A. 7 cm
B. 13.2 cm
C. 35 cm
D. 123.8 cm

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8. Point A has coordinates $(3, -2)$ on a coordinate plane. What are the coordinates of Point A after it has been translated 5 units to the right and then reflected over the y -axis?
- A. $(8, -2)$
 - B. $(-8, -2)$
 - C. $(-8, 2)$
 - D. $(8, 2)$

9. The figure below shows the shape of a wall created as the stage set for the spring play. What is the area of the wall?



- A. 289.7 ft^2
 - B. 308.5 ft^2
 - C. 384 ft^2
 - D. 478.2 ft^2
10. Point P is located at coordinates $(-5, 3)$. If point P is reflected over the y -axis, what are the coordinates of the reflected point?
- A. $(-5, -3)$
 - B. $(5, -3)$
 - C. $(-5, 3)$
 - D. $(5, 3)$
11. A point located at coordinates $(3, 2)$ is rotated about the origin 90 degrees in a counterclockwise direction. What are the coordinates of point after the rotation?
- A. $(-2, 3)$
 - B. $(-3, 2)$
 - C. $(2, -3)$
 - D. $(-3, -2)$