PRACTICE QUIZ 2
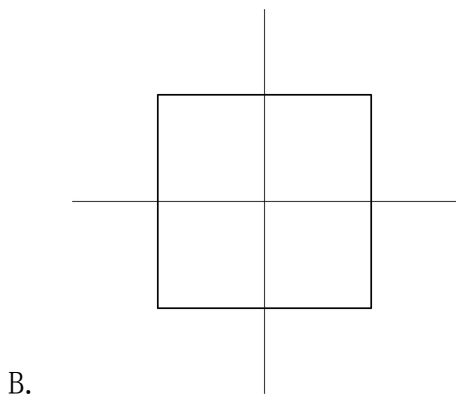
1. What is the intersection of two walls in a room?
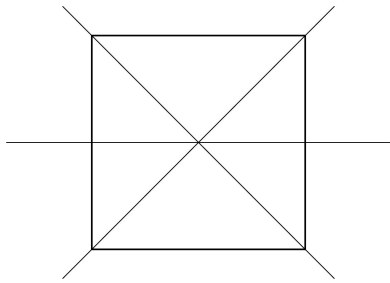
    A. A ray

    B. A line

    C. A point

    D. A plane

2. What is the rotational symmetry for a rectangle?
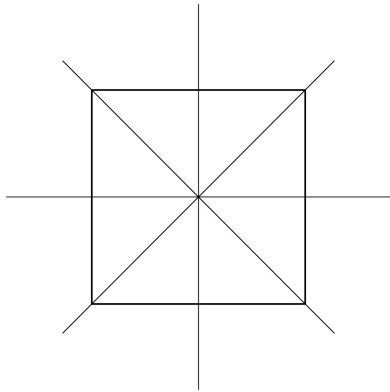
    A. 0°

    B. 90°

    C. 180°

    D. 270°

3. Select the square with the correct lines of symmetry.

    A.

    B.

C.

D.

4. Three vertices of a rectangle are $(-6,5)$, $(-6,0)$, $(12, 5)$. What is the fourth coordinate?

A. $(12, 0)$

B. $(0, 12)$

C. $(-12, 0)$

D. $(0, -12)$

5. A cube has a surface area of 54 square feet. What is the side length in feet?

A. 2

B. 3

C. 4

D. 5

6. A trapezoid has bases of 8 inches and 12 inches and a height of 6 inches. Find the area in square inches.

A. 18

B. 20

C. 60

D. 72

7. A dime has a radius of 8.5 millimeters. Find the circumference in millimeters of the dime. Use 3.14 for π.

   A. 11.64

   B. 26.69

   C. 53.38

   D. 106.76

8. Half of a circular garden with a radius of 11.5 feet needs weeding. Find the area in square feet that needs weeding. Round to the nearest hundredth. Use 3.14 for π.

   A. 207.64

   B. 415.27

   C. 519.08

   D. 726.73

9. A circle has an area of 12 square feet. Find the diameter to the nearest tenth of a foot. Use 3.14 for π.

   A. 1.0

   B. 2.0

   C. 3.0

   D. 4.0

10. A square pyramid has a volume of 189 cubic feet and a height of 7 feet. Find the length in feet of a side of the base.

A. 3

B. 9

C. 12

D. 18

11. A rectangular pyramid has a length of 10 centimeters, a width of 11 inches, and a height of 12 inches. Find the volume in cubic inches.

A. 220

B. 440

C. 660

D. 880

12. A sphere has a volume of 972π cubic millimeters. Find the radius in millimeters.

A. 3

B. 9

C. 27

D. 81

PRACTICE QUIZ 2 – ANSWER KEY

1. B.   The correct solution is a line. The walls are two planes, and two planes intersect at a line.   See Lesson: Congruence.

2. C.   The correct solution is 180° . For a rectangle, there is rotational symmetry every 180° .   See Lesson: Congruence.

3. D.   The correct solution is the square with four lines of symmetry. There is a horizontal line, a vertical line, and two diagonals of symmetry that map the rectangle onto itself.   See Lesson: Congruence.

4. A.   The correct solution is $(12, 0)$ because this point shows a rectangle with sides lengths of 5 units and 18 units.   See Lesson: Similarity, Right Triangles, and Trigonometry.

5. B.   The correct solution is 3. Substitute the values into the formula $54 = 6s^2$. Solve the equation by dividing both sides of the equation by 6 and applying the square root, $9 = s^2; s = 3$ feet.   See Lesson: Similarity, Right Triangles, and Trigonometry.

6. C.   The correct solution is 60. Substitute the values into the formula and simplify using the order of operations, $A = \frac{1}{2}h(b_1 + b_2) = \frac{1}{2}(6)(8 + 12) = \frac{1}{2}(6)(20) = 60$ square inches.   See Lesson: Similarity, Right Triangles, and Trigonometry.

7. C.   The correct solution is 53.38 because $C = 2\pi r \approx (2)3.14(8.5) \approx 53.38$ millimeters.   See Lesson: Circles.

8. A.   The correct solution is 207.64 because
$A = \frac{1}{2}\pi r^2 \approx \frac{1}{2}(3.14)(11.5)^2 \approx \frac{1}{2}(3.14)(132.25) \approx 207.64$ square feet.   See Lesson: Circles.

9. D.   The correct solution is 4.0 because $A = \pi r^2; 12 = 3.14r^2; 3.82 = r^2; r \approx 2.0$. The diameter is twice the radius, or about 4.0 feet.   See Lesson: Circles.

10. **B.** The correct solution is 9. Substitute the values into the formula, $189 = \frac{1}{3}s^2(7)$ and simplify the right side of the equation, $189 = \frac{7}{3}s^2$. Multiply both sides by the reciprocal and apply the square root, $81 = s^2, s = 9$ feet. See Lesson: Measurement and Dimension.

11. **B.** The correct solution is 440. Substitute the values into the formula and simplify using the order of operations, $V = \frac{1}{3}Bh = \frac{1}{3}lwh = \frac{1}{3}(10)(11)12 = 440$ cubic inches. See Lesson: Measurement and Dimension.

12. **B.** The correct solution is 9 millimeters. Substitute the values into the formula, $972\,\pi = \frac{4}{3}\pi r^3$, then multiply by the reciprocal, $729 = r^3$, and apply the cube root, $r = 9$ millimeters. See Lesson: Measurement and Dimension.

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