College Math CLEP Prep Practice Exam (Sample)

Study Guide

BY EXAMZIFY

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<u>Questions</u>

1. **What is the area of a circle with a radius of 12 cm?**
    A. 36 cm
    B. 324 cm
    C. 144 cm
    D. 648 cm

2. **How many degrees are in an isosceles triangle?**
    A. 135
    B. 90
    C. 180
    D. 360

3. **What is the solution of the equation 2x + 4 = 12?**
    A. 16
    B. 8
    C. 6
    D. 4

4. **Which of the following is an example of a linear equation?**
    A. y = x^2
    B. y = sqrt(x)
    C. y = 2x + 5
    D. y = 4x^2 + 3x

5. **How many faces does a cube have?**
    A. 6
    B. 8
    C. 12
    D. 5

6. **What is the value of x in the equation 7/3x = 9/2?**
    A. 7
    B. 12
    C. 14
    D. 21

7. What is the value of 3x + 2y if x=2 and y=-4?

    A. 6

    B. -2

    C. 4

    D. -10

8. What is the simplified form of (5x+3)(x-7)?

    A. 5x-21

    B. 5x^2+18

    C. 5x^2-21x

    D. 5x^2-23x+21

9. 5 + [3 x (4 – 2)] =

    A. 10

    B. 11

    C. 12

    D. 13

10. What is the degree of a polynomial?

    A. The amount of solutions

    B. The order of the equation

    C. The power of the highest term

    D. The number of terms

Answers

1. B
2. C
3. B
4. C
5. A
6. B
7. D
8. D
9. B
10. C

Explanations

1. What is the area of a circle with a radius of 12 cm?

A. 36 cm

B. 324 cm

C. 144 cm

D. 648 cm

A. 36 cm is incorrect because this is the area of a square with side length equal to the radius, not a circle.　　C. 144 cm is incorrect because this is the area of a circle with a radius of 24 cm, not 12 cm. To find the area of a circle, we use the formula $A = \pi r^2$, where r is the radius.　　D. 648 cm is incorrect because this is the area of a circle with a radius of 36 cm, not 12 cm.　　The correct answer is B because the formula for the area of a circle with a given radius is $A = \pi r^2$. Plugging in the given radius of 12 cm, we get $A = \pi(12)^2 = 144\pi$ cm². Since we are looking for the numerical value of the area, we can use the approximate value

2. How many degrees are in an isosceles triangle?

A. 135

B. 90

C. 180

D. 360

An isosceles triangle has two equal sides and two equal angles. Since the sum of all angles in a triangle is 180 degrees, each angle in an isosceles triangle must be less than 180 degrees. Therefore, none of the other options are correct as they are all angles that are greater than 180 degrees. Option A is outside of the possible range of angles for a triangle, option B is exactly 90 degrees and not less than 180, and option D is more than double the sum of the angles in a triangle. This is why the correct answer is 180 degrees.

3. What is the solution of the equation 2x + 4 = 12?

A. 16

B. 8

C. 6

D. 4

To solve the equation 2x + 4 = 12, the goal is to isolate the variable x.　Start by eliminating the constant term on the left side of the equation. Subtract 4 from both sides:　2x + 4 - 4 = 12 - 4　This simplifies to:　2x = 8　Next, to solve for x, divide both sides of the equation by 2:　2x / 2 = 8 / 2　This simplifies to:　x = 4　So, the solution to the equation is x = 4.　This means that when you substitute 4 back into the original equation, it holds true:　2(4) + 4 = 8 + 4 = 12.　Thus, the correct solution is 4.

4. Which of the following is an example of a linear equation?

A. y = x^2

B. y = sqrt(x)

C. y = 2x + 5

D. y = 4x^2 + 3x

A linear equation is a mathematical equation that can be written in the form y = mx + b, where m and b are constants. Option A is a quadratic equation with a degree of 2, meaning it has an x^2 term. Option B is a square root function, which does not have a linear form. Option D is also a quadratic equation, but with an additional x term, making it non-linear. Therefore, C is the only option that follows the form of a linear equation and is therefore the correct answer.

5. How many faces does a cube have?

A. 6

B. 8

C. 12

D. 5

A cube has 6 faces, each of which is a square. This is because a cube is a three-dimensional shape with six square faces that are all the same size. Option B, 8, is incorrect because a cube does not have any rectangular faces, only square faces. Option C, 12, is incorrect because a cube does not have any triangular faces. Option D, 5, is incorrect because a cube has more than 5 faces. So, the only correct answer is A, 6.

6. What is the value of x in the equation 7/3x = 9/2?

A. 7

B. 12

C. 14

D. 21

To solve this equation, we can start by isolating the variable on one side of the equation. In order to do this, we need to get rid of the fraction 7/3. To eliminate the fraction, we can multiply both sides of the equation by its reciprocal, which is 3/7. This results in x = (9/2) * (3/7). Simplifying this gives us x = 27/14. Therefore, the value of x is 27/14, which is equivalent to 12 when simplified. The other options are incorrect because they do not go through the same steps as mentioned above. For example, Option A assumes that the fraction 7/3 is not there, which is not the case. Option C and D go through some incorrect simplification steps, resulting in incorrect answers. It is important to pay close attention to the

7. What is the value of 3x + 2y if x=2 and y=-4?

   A. 6

   B. -2

   C. 4

   D. -10

To find the value of 3x + 2y, we plug in the given values of x=2 and y=-4 into the equation. Therefore, 3(2) + 2(-4) = 6 - 8 = -2. Option A is incorrect because it does not account for the negative sign in the equation. Similarly, option B is incorrect because it only accounts for the value of x and not y. Option C is incorrect because it does not consider the multiplication factor for both x and y. Therefore, the correct answer is -2 (not 6 as in option A.)

8. What is the simplified form of (5x+3)(x-7)?

   A. 5x-21

   B. 5x^2+18

   C. 5x^2-21x

   D. 5x^2-23x+21

The simplified form of the expression (5x+3)(x-7) is 5x^2-23x+21. This is because in order to simplify, we must distribute the 5x and 3 to each term within the parentheses. This results in 5x^2-35x+3x-21, which can then be combined and simplified to 5x^2-23x+21. Option A is incorrect because it only accounts for the distribution of the 5x, but not the 3. Option B is incorrect because it does not distribute the 5x to the (x-7) term. Option C is incorrect because it does not account for the distribution of the 3 as well as the -7 in the second parentheses. Therefore, the only correct option is D, which fully distributes and simplifies the expression.

9. 5 + [3 x (4 – 2)] =

   A. 10

   B. 11

   C. 12

   D. 13

The equation follows the order of operations, which states that multiplication should be performed before addition. Therefore, the parentheses should be simplified first, resulting in 3 x 2 = 6. Then, we can add 5 + 6 to get the final answer of 11. Options A, C and D are incorrect because they do not correctly follow the order of operations. Option A would result in the equation being simplified as 3 x 2 = 6 before adding 5, resulting in 11 instead of 10. Option C would result in the equation being simplified as 4 - 2 = 2 before multiplying by 3, resulting in 10 instead of 12. Option D would result in the equation being simplified as 5 + 3 = 8 before multiplying by 2, resulting in 16 instead of 13. Thus, option B is the

10. What is the degree of a polynomial?

A. The amount of solutions

B. The order of the equation

C. The power of the highest term

D. The number of terms

The degree of a polynomial refers to the highest power of the variable in the polynomial. Option A is incorrect because the solutions to a polynomial do not determine its degree. Option B is incorrect because the order of the equation refers to the number of terms, not the degree. Option D is incorrect because the number of terms in a polynomial does not necessarily correspond to its degree.