Algebra 2 Prior-Knowledge Test NO CALCULATOR! \_\_ Please do not write on this test!

1. Evaluate if *a* = 7 and *b* = 4.

1. 2 b. 7 c. 5 d. 10

2. Find

1. 12 b. -8 c. -27 d. 27

3. If twice a number is added to the number, the result is 60. What is the number?

1. 30 b. 20 c. 1 d. 24

4. Solve for .

1. -8 b. 8 c. -22 d. 22

5. Solve for *x*: 

1. – 2 b. 12 c. 2 d. – 12

6. Solve for *x*: 

1.  b.  c.  d. 

7. What number is 85% of 200?

1. 225 b. 100 c. 170 d. 85

8. Which rule describes the values in the table?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| x | -1 | 0 | 1 | 2 |
| y | -1 | -2 | -1 | 2 |

1. b. c. d.

9. Simplify

1. 1 – 10*a* b. 1 – 8*a* c. 1 – 4*a* d. 11 – 8*a*

10. Solve the system:

a. (-2, -4) b. (2, -4) c. (-2, 4) d. (2, 4)

11. Match the given function with the appropriate graph. Y = – x2 + 2

a. b. c. d.

   

12. You have enough materials for a square shaped porch that is 49 ft2 in area. What would the length be?

a. 4 feet b. 9 feet c. 24.5 feet d. 7 feet

13. Simplify: 

1.  b.  c.  d. 

14. Find the length of the leg of a right triangle with hypotenuse 5 inches and leg 3 inches.

1. 5.8 inches b. 3 inches c. 4 inches d. 15 inches

15. Each section of the spinner shown below has the same area. The spinner was spun 20 times. The results are shown in the table. Spinner Results:

|  |  |
| --- | --- |
| Red | 2 |
| Green | 4 |
| Blue | 5 |
| Yellow | 9 |

Blue

Red

Yellow

Green

For which color is the experimental probability of stopping on the color the same as the theoretical probability?

a. Red b. Green c. Blue d. Yellow

16. Write a polynomial that represents the perimeter of the figure.

3x + 1

X – 2

5x + 2

3x – 1

a. 11x +1 b. 12x2 + 1 c. 10x d. 12x

17. What is the equation of the line through the points (-2, 4) and (0,8) ?

1. b. c. d.

18. Solve: 

1. b.  c. d. 

19. Solve: 

1. b.  c. d. 



20. Solve: 

1. 8 b. – 4 or 8 c.4 or 8 d. 4 or – 8

21. What is the slope of the line  ?

1.  b.  c. d. 

22. What is the x-intercept of the line  ?

1. 3 b. – 3 c.– 2 d. 

23. What is the slope of the line that is perpendicular to  ?

1. 2 b. – 2 c. d. 

24. Simplify:

a. b. c. d. 0

25. Simplify:

a. b.  c.  d. 

26. The volume of a right circular cylinder with radius and height is given by the formula . A water tank in the shape of a right circular cylinder has a **diameter** of 7 feet and a height of 8 feet. Approximately how many cubic feet of water will the tank hold?

1. 176 cubic feet b. 308 cubic feet c. 616 cubic feet d. 1232 cubic feet

27. Simplify: 3x(2x – 1)

a. 6x2 – 3x b. 5x2 – 3x c. 6x – 1 d. 6x2 – 2x

28. Simplify: 

1.  b.  c.  d. 

29. Simplify: 

1.  b.  c.  d. 

30. Factor:

1. b. c. d.

31. How is the following polynomial classified?

a. linear trinomial b. quadratic trinomial c. cubic trinomial d. quadratic binomial

32. Simplify:

1. b. c. d.

33. Simplify:

1. b. c. d.

34. What is the Quadratic Formula?

1. b.

c. d.

35. Which inequality is represented in the graph?