



Tenth Grade - Algebra

1) Identify the zeros of the function $f(x) = (x^2 + 3x + 2) / (x^2 - 2x - 3)$

- -2
- -1
- No Zero
- Zero

2) Identify the zeros of the function $f(x) = (x^2 - 6x + 9) / (x^2 - 9)$

- Zero
- No Zero
- 1
- 4

3) Identify the zeros of the function $f(x) = (x - 3) / (x + 3)$

- 2
- 3
- 0
- 1

4) Find the sum and product of $x^2 - 2x - 8 = 0$

- 5, -5
- 2, -8
- 1, -5
- 3, -5

5) Find the sum and product of $4x^2 - 4x + 1 = 0$



- 3 ,1/3
- 2 ,1/3
- 1 ,1/2
- 1 ,1/4

6) Find the sum and product of $6x^2 - 3 - 7x = 0$

- 7/6, -1/2
- 3/4, -4/5
- 2/3, 3/5
- 1/3, 1/5

7) Find the sum and product of $4x^2 + 8x = 0$

- 1, 0
- -1, -2
- -2, 1
- -2, 0

8) Find the sum and product of $x^2 - 15 = 0$

- 0, -15
- 3, -13
- 0, -9
- 1, -10

9) Find the quadratic equation whose sum and product are 1/4, -1

- $k (-x^2 + (1/4)x - 1)$
- $k (x^2 + (1/4)x - 1)$
- $k (x^2 - (1/4)x - 1)$
- $k (x^2 + (1/4)x + 1)$



10) Find the quadratic equation whose sum and product are 1, 1

- $k(-x^2 + x - 1)$
- $k(x^2 - x - 1)$
- $k(x^2 - x + 1)$
- $k(x^2 + x + 1)$

11) Find the quotient and remainder if $p(x) = x^3 - 3x^2 + 5x - 3$, $g(x) = x^2 - 2$ if $p(x)$ divides $g(x)$

- $(x - 3), (7x - 9)$
- $(x + 3), (7x - 9)$
- $(x + 3), (7x + 9)$
- $(x - 3), (7x + 9)$

12) Find the quotient and remainder if $p(x) = x^3 - 3x^2 + 4x + 5$, $g(x) = x^2 - x + 1$ if $p(x)$ divides $g(x)$

- $x^2 - x - 3, 8$
- $x^2 + x + 3, 8$
- $x^2 + x - 3, 8$
- $x^2 - x - 1, -8$

13) Find the quotient and remainder if $p(x) = 2x^3 + 3x^2 - 2x^2 - 9x - 12$, $g(x) = x^3 - 3$ if $p(x)$ divides $g(x)$

- $2x^2 - 3x - 4, 0$
- $2x^2 + 3x + 4, 0$
- $2x^2 - 3x + 4, 1$
- $2x^2 + 3x - 4, 0$

14) Find the quotient and remainder if $p(x) = 5x^2 - 5x + 10$, $g(x) = 5$ if $p(x)$ divides $g(x)$

- $x^2 - x - 2, 0$
- $-x^2 - x + 2, 0$



- $x^2 - x + 2, 0$
- $x^2 + x + 2, 0$

15) Solve these simultaneous equations $8x - 3y = 46$ and $-5y = 45 - 7x$

- 5, -2
- 5, -3
- 4, 5
- 29, 45

16) Solve these simultaneous equations $3x - y = 12$, $3x + 5y = 0$

- $10/3, -2$
- $10/3, 5$
- $12/5, 2$
- $10/3, 2$

17) Solve these simultaneous equations $2c + 3d = -3$, $3c - 4d = 4$

- 1, -1
- -1, -1
- 0, -1
- 1, 1

18) Solve these simultaneous equations $2x - 3y = 8$, $5x + 4y = 43$

- 2, 9
- 9, 2
- 3, 7
- 7, 2



19) Solve these simultaneous equations $x + 2y = 3$, $2x - y = 11$

- 5, -1
- 1, -5
- 8, -3
- -5, -1

20) At a shop, 5 plates and 3 cups cost \$2.50 while 2 plates and 8 cups cost \$4.40. Solve the simultaneous equations and find the price of each plate and each cup

- 0.45 , 0.78
- 0.78 , 0.54
- 0.80 , 0.87
- 0.20 , 0.50

21) The sum of two numbers x and y, is 180 and their difference is 38. Solve the simultaneous equations to find x and y.

- 104, 76
- 109, 71
- 100, 70
- 160, 70

22) The total cost of 4 chocolate bars and 2 lollipops is \$18.00. The cost of 7 chocolate bars and 5 lollipops is \$24.50. Find the cost of 1 lollipop.

- 1.25, 9
- 6.55, 7
- 3.15, 6
- 3.50, 2

23) Two numbers are given as $(7a - 4)$ and $(5b + 13)$. If $(7a - 4)$ is divided by b, the result is 10. If $(5b + 13)$ is divided by a, the result is 4. Form two equations in a and b, find the two numbers.



- 21/22 , 6/7
- 20/21, 1/3
- 21/23 , 5/4
- 22/21, 1/3

24) Solve the equation: $x^2 - 15 = 34$

- ± 7
- 7
- No real number solutions
- ± 49

25) Solve $(x + 8)(4x + 2) = 0$ using the Zero Product Property

- $x = 8$ or $1/2$
- $x = -8$ or $-1/2$
- $x = 8$ or $-1/2$
- $x = -8$ or $1/2$

26) Solve the equation by factoring: $z^2 + 4z + 12 = 0$

- $z = -6$ or 2
- $z = 6$ or 2
- $z = 6$ or -2
- $z = -6$ or -2

27) Solve the equation by completing the square: $x^2 + 2x + 6 = 0$

- 1.65, 3.65
- -8.11, 6.41
- -1.65, -3.65
- 1.65, -3.65



28) Use Quadratic formula to solve $2a^2 - 46a + 252 = 0$

- 21 or 8
- 12 or 5
- 14 or 9
- 24 or 7

29) Whether $x^2 - 12x + 36 = 0$ is

- Not Equal
- Equal
- Imaginary
- None of these

30) Whether $x^2 - 5 = 0$ is

- Equal
- Not Equal
- Imaginary
- None of these