## Tenth Grade - Algebra

- 1) Identify the zeros of the function  $f(x) = (x^2 + 3x + 2) / (x^2 2x 3)$ 
  - No Zero
  - -1
  - Zero
  - -2
- 2) Identify the zeros of the function  $f(x) = (x^2 6x + 9) / (x^2 9)$ 
  - No Zero
  - 4
  - 1
  - Zero
- 3) Identify the zeros of the function f(x) = (x-3)/(x+3)
  - 0
  - 3
  - 2
  - 1
- 4) Find the sum and product of  $x^2 2x 8 = 0$ 
  - 3, 5
  - 5, -5
  - 1, -5
  - 2, -8
- 5) Find the sum and product of  $4x^2 4x + 1 = 0$

- 3,1/3
- 1,1/2
- 2,1/3
- 1,1/4
- 6) Find the sum and product of  $6x^2 3 7x = 0$ 
  - 1/3, 1/5
  - 2/3, 3/5
  - 7/6, -1/2
  - 3/4, -4/5
- 7) Find the sum and product of  $4x^2 + 8x = 0$ 
  - 1,0
  - -2, 1
  - -2, 0
  - -1, -2
- 8) Find the sum and product of  $x^2 15 = 0$ 
  - 0, -9
  - 1, -10
  - 3, -13
  - 0, -15
- 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  $p(x) = x? 3x^2 + 4x + 5$ ,  $g(x) = x^2 x + 1$  if p(x) divides g(x)
  - $x^2 x 3, 8$
  - $x^2 + x 3, 8$
  - $x^2 x 1$ , -8
  - $x^2 + x + 3, 8$
- 13) Find the quotient and remainder if p(x) = 2x? +  $3x^3 2x^2 9x 12$ ,  $g(x) = x^3 3$  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, -3
  - 29, 45
  - 4, 5
  - 5, -2
- 16) Solve these simultaneous equations 3x y = 12, 3x + 5y = 0
  - 10/3,5
  - 10/3 , -2
  - 10/3,2
  - 12/5,2
- 17) Solve these simultaneous equations 2c + 3d = -3, 3c 4d = 4
  - -1, -1
  - 0, -1
  - 1, -1
  - 1, 1
- 18) Solve these simultaneous equations 2x 3y = 8.5x + 4y = 43
  - 7,2
  - 3,7
  - 9,2
  - 2,9

- 19) Solve these simultaneous equations x + 2y = 3, 2x y = 11
  - 8, -3
  - 5, -1
  - 1, -5
  - -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
  - 0.20, 0.50
  - 0.80, 0.87
- 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.
  - 109, 71
  - 100, 70
  - 160, 70
  - 104, 76
- 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.
  - 3.50, 2
  - 1.25, 9
  - 6.55, 7
  - 3.15, 6
- 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.

- 20/21, 1/3
- 21/22, 6/7
- 22/21, 1/3
- 21/23, 5/4
- 24) Solve the equation:  $x^2 15 = 34$ 
  - ±7
  - 7
  - ±49
  - No real number solutions
- 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
  - 1.65, -3.65
  - -1.65,-3.65
  - *-*8.11, 6.41

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

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

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

- None of these
- Imaginary
- Equal
- Not Equal

## 30) Whether $x^2$ ? 5 = 0 is

- Not Equal
- Equal
- Imaginary
- · None of these

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