

Directions: Write the polynomial functions in standard form. Show your work!!!!

1.  $y = (x + 2)(x - 1)$

2.  $y = (2x - 9)(x + 2)$

3.  $y = (x + 2)(x - 1)(x + 1)$

4.  $y = (x - 9)(x + 2)(x - 4)$

5.  $y = (x - 2)(x + 1)(x + 3)$

6.  $y = x(x + 5)^2$

7.  $y = 2x(2x - 1)(x + 2)$

8.  $y = (x - 3)^2(x + 1)$

Directions: Write each polynomial in factored form. Show all of your work!!!

9.  $y = x^3 - 36x$

10.  $y = x^3 + 8x^2 + 16x$

11.  $y = x^3 + 7x^2 + 10x$

12.  $y = x^3 - 7x^2 - 18x$

13.  $y = 5x^3 - 5x$

14.  $y = x^3 + x^2 - 9x - 9$

Directions: Find the zeros for each function.

15.  $y = (x-1)(x+2)$

16.  $y = (x-2)(x+9)$

17.  $y = x(x+5)(x-8)$

18.  $y = (x+4)(x-4)$

19.  $y = x(2x+1)(x+7)$

20.  $y = (x+1)(x-1)(x-2)$

Directions: Write the polynomial function. Keep your answer in factored form.

21.  $x = -1, -2, -3$

22.  $x = 5, -2, 0$

23.  $x = -2, -1, 0, 4$