

PC 3-0 (Quadratics Review/General Review)

Let  $f(x) = 3x^2 - 10x - 8$

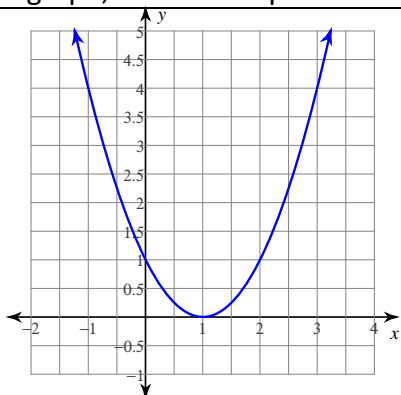
1) Factor  $f(x)$ . Show all steps.

2) Evaluate  $f(0)$

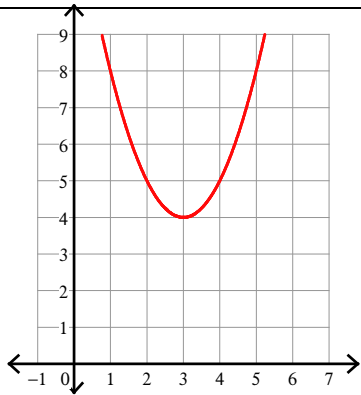
3) Solve  $f(x) = 0$

Given the graph, write the equation.

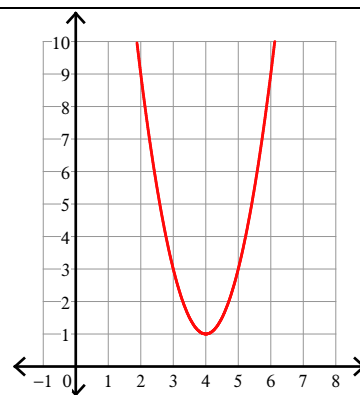
4)



5)



6)



Multiply the given polynomials.

7)  $(x + 4)(x^2 - 7x + 10)$

8)  $(x^2 + 4x)(x^2 - 10x + 15)$

9)  $(x^2 + 3x - 5)(x - 9)$

Factor.

10)  $x^2 - 2x - 63$

11)  $3x^2 - 11x + 6$

12)  $x^2 + 8x - 33$

### Example:

Given  $(x-2)$  is a factor of  $x^3 - 6x^2 - 37x + 90$ , factor completely.

$(x-2)(\quad\quad\quad) = x^3 - 6x^2 - 37x + 90$   
 I know these are from the boxes  
 $(x-2)(x^2 - 4x - 45)$   
 $(x-2)(x-9)(x+5)$   
 Factored Form:  $(x-2)(x-9)(x+5)$

1) Given  $(x+9)$  is a factor of  $x^3 + 7x^2 - 21x - 27$ , factor completely.

2) Given one factor of  $x^3 + 12x^2 + 44x + 48$  is  $(x+2)$ , factor completely.

3) Given one factor of  $x^3 + 8x^2 - 13x - 140$  is  $(x-4)$ , factor completely.

4) Given one factor of  $x^3 - 8x^2 - 23x + 210$  is  $(x+5)$ , factor completely.

5) Given one factor of  $x^3 - 14x^2 + 28x + 120$  is  $(x-6)$ , factor completely.

6) Given one factor of  $x^3 - 6x^2 - x + 30$  is  $(x-3)$ , factor completely.

7) Given one factor of  $x^3 - 13x^2 + 14x + 88$  is  $(x-11)$ , factor completely.

