Math 12 – Workshop #12

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1. Solve the following

   (a) $x^2 + 3x - 28 = 0$

   (b) $x^2 - 3x + 2 = 0$

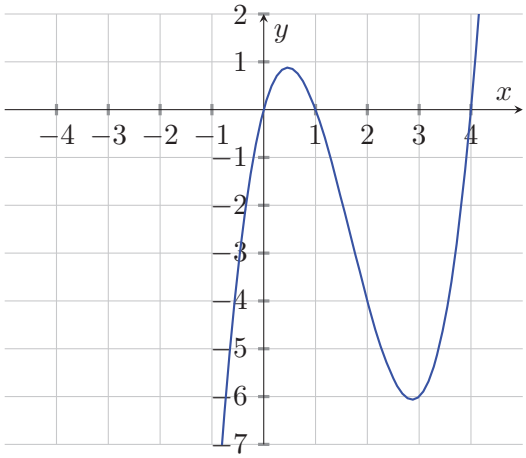
   (c) $2x^2 - 4x - 6 = 0$

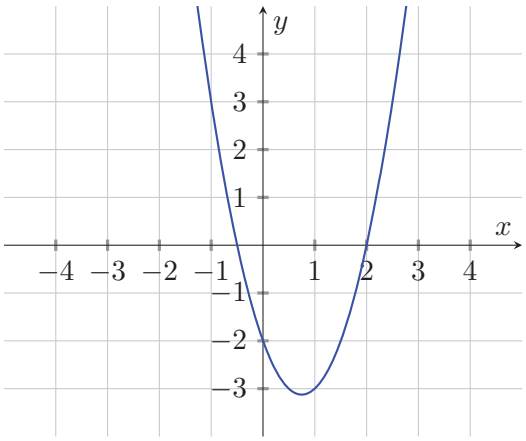
   (d) $w^2 + 7w + 10 = 0$

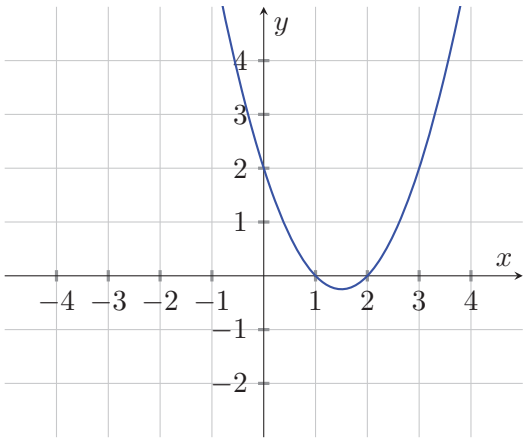
   (e) $2x^3 + 10x^2 + 12x = 0$

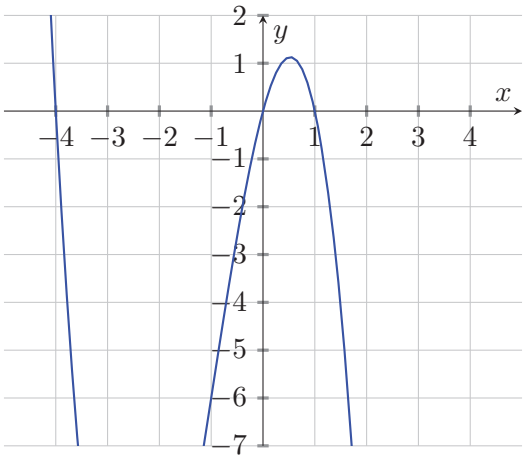
   (f) $x^4 - 3x^2 = 4$

2. (a) Determine where the polynomials are equal to 0. Assume no zeros occur outside of the shown area.









   (b) Without using a graphing utility match the polynomials to their graphs above.

   - $f(x) = (x - 1)(x - 2)$
   - $g(x) = (2x + 1)(x - 2)$
   - $h(x) = x(x - 1)(x - 4)$
   - $j(x) = x(1 - x)(x + 4)$

3. Suppose that the perimeter of a square is increased by 4 inches, after doing this the resulting area is 16 square inches. What were the dimensions of the original square?

4. A rectangle has width 3 inches longer than it's length. Ignoring units, the area of the rectangle is equal to it's perimeter. What are the rectangles dimensions?