C12 - 3.1 - Long Division WS

Divide using long division and state the division statement and the multiplication statement.

$2\overline{)\,8}$ $3\overline{)\,72}$ $4\overline{)\,42}$ $3\overline{)\,25}$

$(x-2)\overline{)\,x^2+2x-8}$ $(x+5)\overline{)\,x^2+9x+20}$

$(x+2)\overline{)\,3x^2+5x-2}$ $(x-3)\overline{)\,x^3-2x^2-5x+6}$ Fully Factor

$(x-3)\overline{)\,x^2+4x-22}$ $(x+4)\overline{)\,2x^2+9x-1}$

R:

R:

C12 - 3.1 - Synthetic Division WS

Divide using synthetic division and state the division statement and the multiplication statement. Fully Factor if possible Gr 11.

$\frac{x^2 + 2x - 8}{x - 2}$

$\frac{x^3 - 2x^2 - 5x + 6}{x + 2}$

$\frac{x^3 + 2x^2 - 5x - 7}{x + 2}$

$\frac{x^3 - 2x^2 - 5x + 8}{(x - 3)}$

R:

R:

$\frac{x^3 + x^2 - 4x - 4}{x - 2}$

$\frac{x^3 + 2x^2 - 4x - 8}{x + 2}$

$\frac{x^3 + 6x^2 + 12x + 8}{x + 3}$

R:

C12 - 3.2 - Synthetic Long Division WS

Is the following a factor of the polynomial. Factor using synthetic or long division. If possible fully factor. If not state the remainder. List x-intercepts.

$(x-1)$ x^3-2x^2-5x+6

$(x+1)$ x^3+x^2-4x-4

$(x-3)$ x^3-2x^2-5x+6

$(x+2)$ x^3+x^2-4x-4

$(x-2)$ x^3+2x^2-4x-8

$(x+2)$ $x^3+6x^2+12x+8$

R:

$(x-1)$ x^3-2x^2-5x+7

$(x+1)$ x^3+x^2-4x-1

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

$(x+2)$ x^3+x^2-4x+2

R:

C12 - 3.2 - Factor/Remainder Theorem WS

Is the following a factor of the polynomial. Use the Factor/Remainder Theorem. State the remainder if necessary.

$(x - 1)$ $x^3 - 2x^2 - 5x + 6$

$(x + 3)$ $x^3 + x^2 - 4x - 4$

$(x - 3)$ $x^3 - 2x^2 - 5x + 6$

$(x + 2)$ $x^3 + x^2 - 4x - 4$

$(x - 2)$ $x^3 + 2x - 4x - 8$

$(x + 2)$ $x^3 + 6x^2 + 12x + 8$

$(x - 1)$ $x^3 - 2x^2 - 5x + 7$

$(x + 1)$ $x^3 + x^2 - 4x - 1$

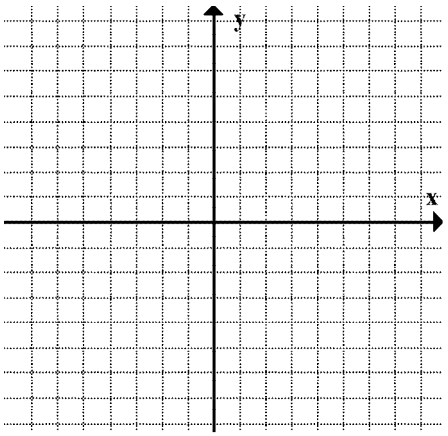
$(x - 3)$ $x^3 - 2x^2 - 5x - 2$

$(x + 2)$ $x^3 + x^2 - 4x + 2$

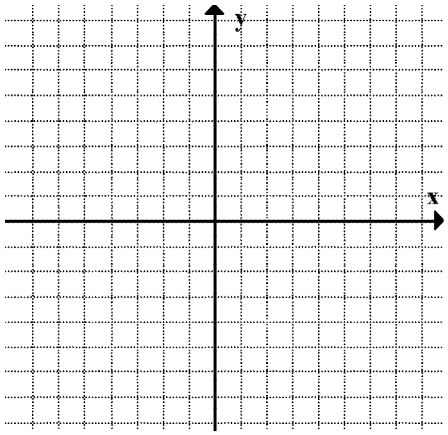
C12 - 3.24 - Factoring WS

Factor and state the x and y-intercepts and draw a graph

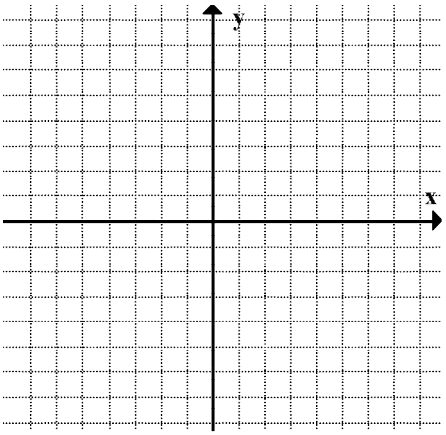
$f(x) = x^2 + 5x + 4$



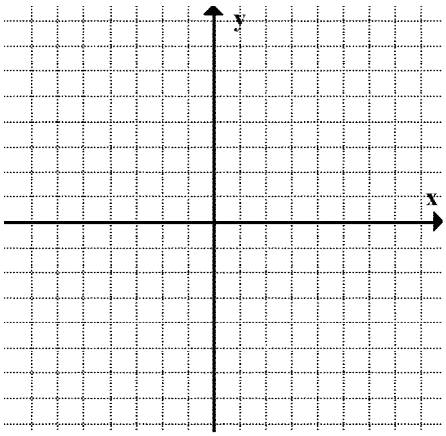
$f(x) = x^3 - 2x^2 - 5x + 6$



$f(x) = x^3 + 2x^2 - 5x - 6$



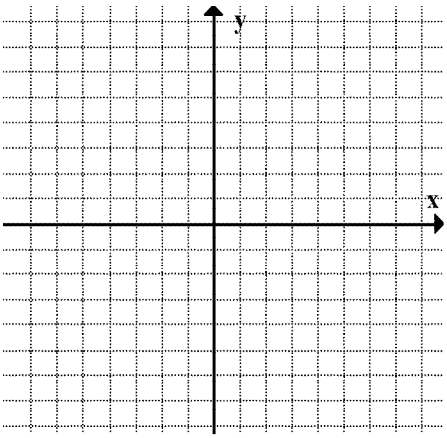
$f(x) = x^3 + 2x^2 - 4x - 8$



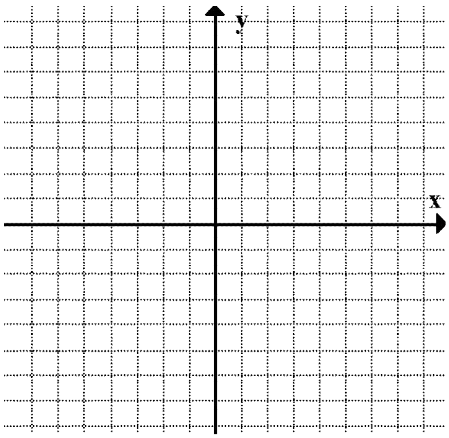
C12 - 3.24 - Factoring WS

Factor and state the x and y-intercepts and draw a graph

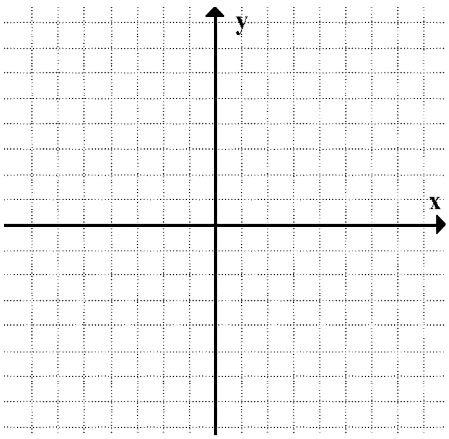
$f(x) = x^2 - 4x + 3$



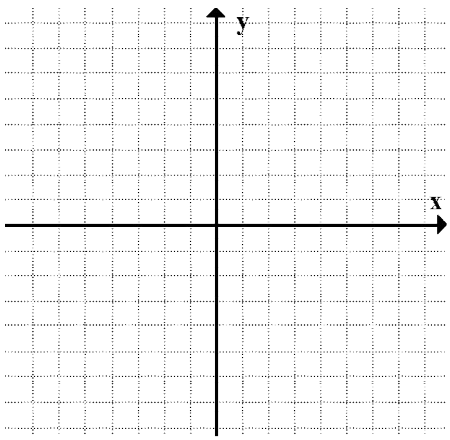
$f(x) = x^3 + x^2 - 4x - 4$



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



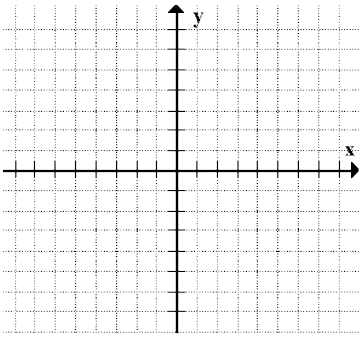
$f(x) = x^3 + 6x^2 + 12x + 8$



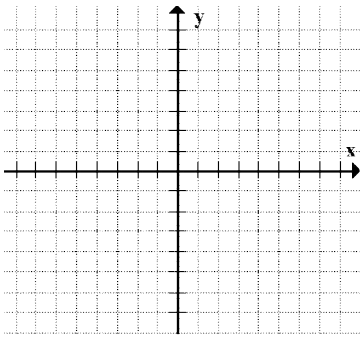
C12 - 3.34 - $x - int, y - int$ to Factored form WS $y = a(x \pm \#)(x \pm \#)(x \pm \#) \ldots$

Find Equation in standard form and graph.

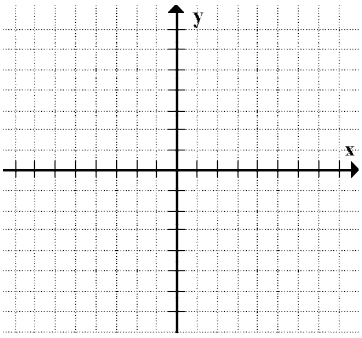
$x - int = -2, -1, 2$
$y - int = -8$



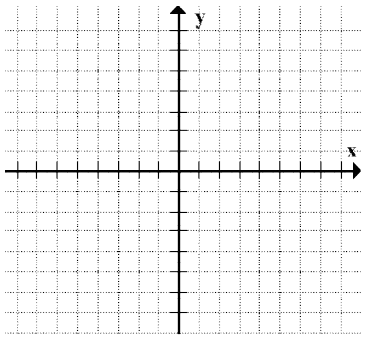
$x - int = -2, 1, 3$
$y - int = 6$



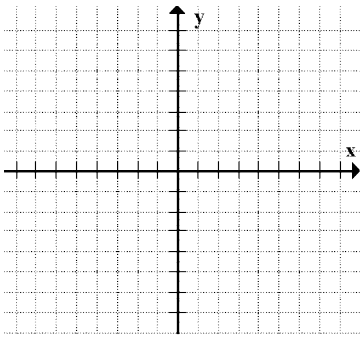
$x - int = -3, -1, 2$
$y - int = -3$



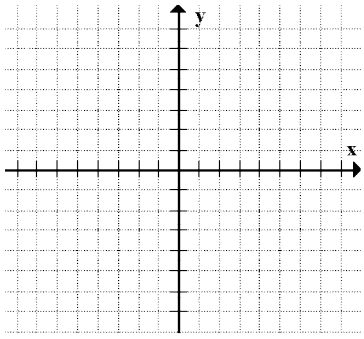
$x - int = -4, -2, 1$
$y - int = 4$



$x - int = -2, -2, 2$
$y - int = -8$



$x - int = -2, -2, -2$
$y - int = 4$

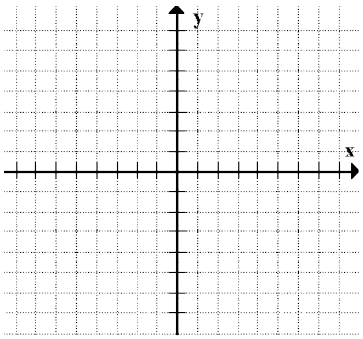


C12 - 3.34 - Graph Factored Form WS

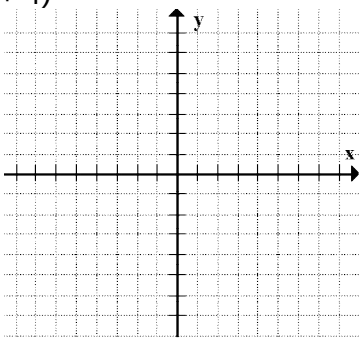
$y = a(x \pm \#)(x \pm \#)(x \pm \#) \ldots$

Find Equation in standard form and sketch a graph and label x and y intercepts.

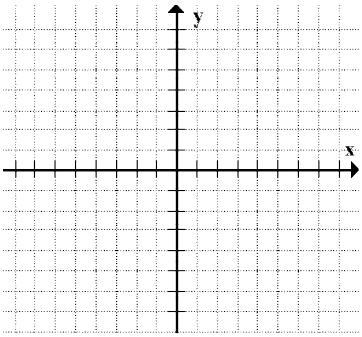
$f(x) = (x + 1)(x - 2)(x + 2)$



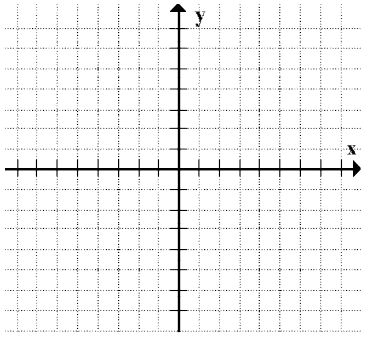
$f(x) = (x - 2)(x - 1)(x + 4)$



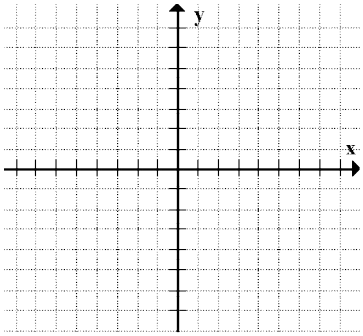
$f(x) = -(x - 1)(x + 2)(x - 3)$



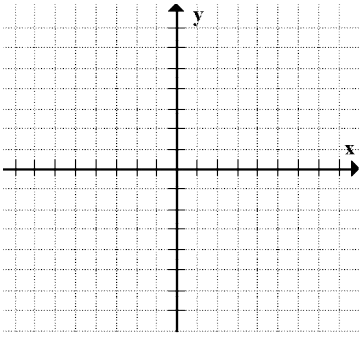
$f(x) = (x + 2)^2(x - 2)$



$f(x) = (x - 1)^2(x + 2)$



$f(x) = -(x + 2)^3(x - 1)$

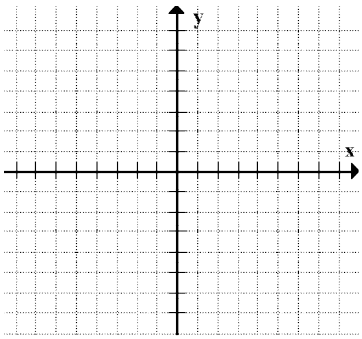


C12 - 3.34 - Graph Factored Form WS

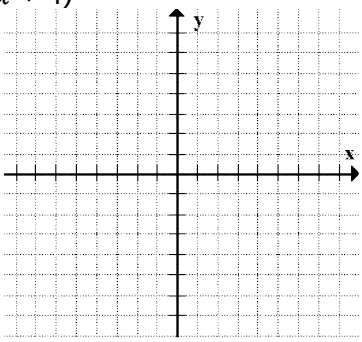
$y = a(x \pm \#)(x \pm \#)(x \pm \#) \ldots$

Find Equation in standard form and sketch a graph and label x and y intercepts.

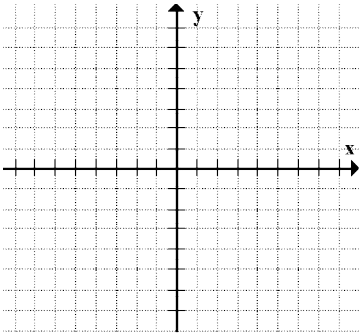
$f(x) = -(x + 1)(x - 2)(x + 2)$



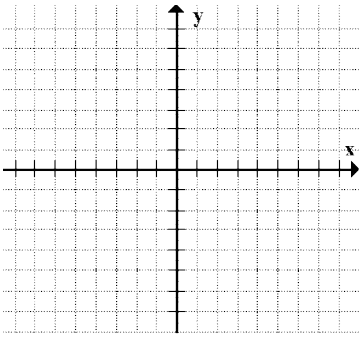
$f(x) = -(x + 1)(x - 1)(x + 4)$



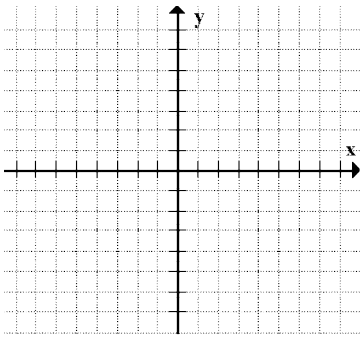
$f(x) = (x - 1)^2(x + 2)(x - 3)^3$



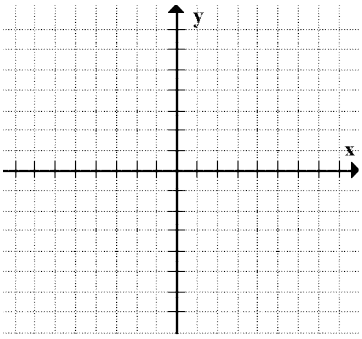
$f(x) = (x + 2)(x + 2)(x - 2)(w - 2)$



$f(x) = x(x - 1)^2(x + 2)$



$f(x) = -x(x + 2)^3(x - 1)$



C12 - 3.5 - Open Rectangular Box Cut Side x WS

An open rectangular box is made by cutting equal lengths from each corner of the 10 cm by 8 cm rectangular piece of cardboard, then folding up the sides. Find the length of the square that must be cut from each corner so the box has a volume of 48. And find Max Volume.