

WORKSHEET 2.9 PART 1 – Graphing Polynomial Functions



Name: _____ Hour: _____ Date: _____

DIRECTIONS: Graph each polynomial function. (2.3.A)

1) $f(x) = (x - 6)(x - 1)(x + 2)$

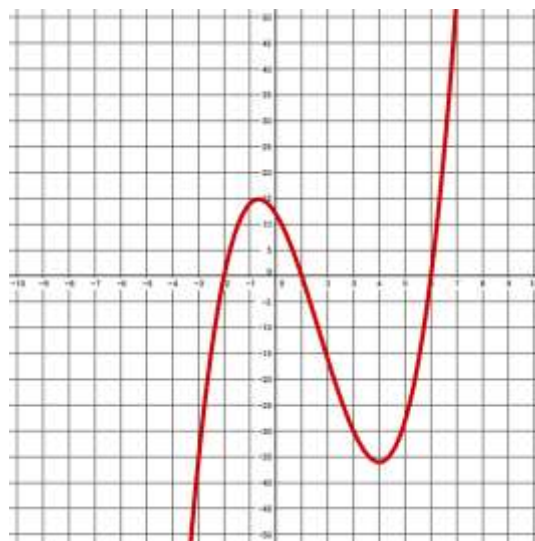
x-intercepts:

$(6, 0), (1, 0), (-2, 0)$

$f(x) \rightarrow -\infty$ as $x \rightarrow -\infty$

$f(x) \rightarrow +\infty$ as $x \rightarrow +\infty$

x	y



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

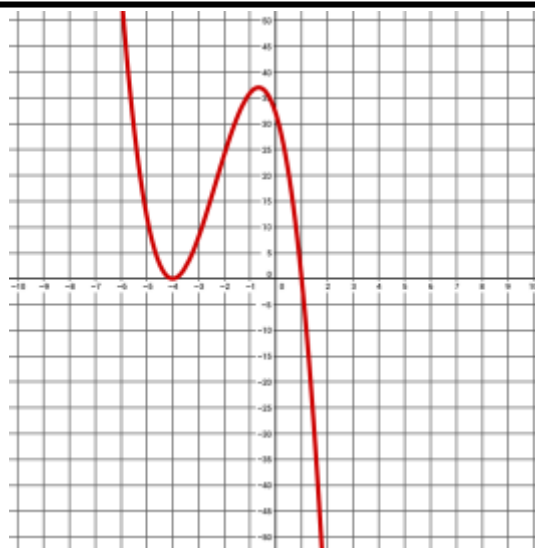
x-intercepts:

$(1, 0)$ and $(-4, 0)$

$f(x) \rightarrow +\infty$ as $x \rightarrow -\infty$

$f(x) \rightarrow -\infty$ as $x \rightarrow +\infty$

x	y



3) $f(x) = 3x(x + 4)(x - 6)$

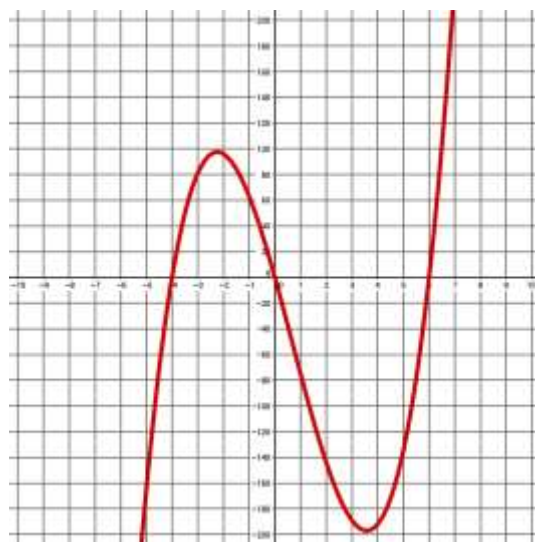
x-intercepts:

$(0, 0), (-4, 0), (6, 0)$

$f(x) \rightarrow -\infty$ as $x \rightarrow -\infty$

$f(x) \rightarrow +\infty$ as $x \rightarrow +\infty$

x	y



DIRECTIONS: Graph each polynomial function. (2.3.A)

4) $f(x) = (x + 1)(x - 2)(x - 4)(x - 6)$

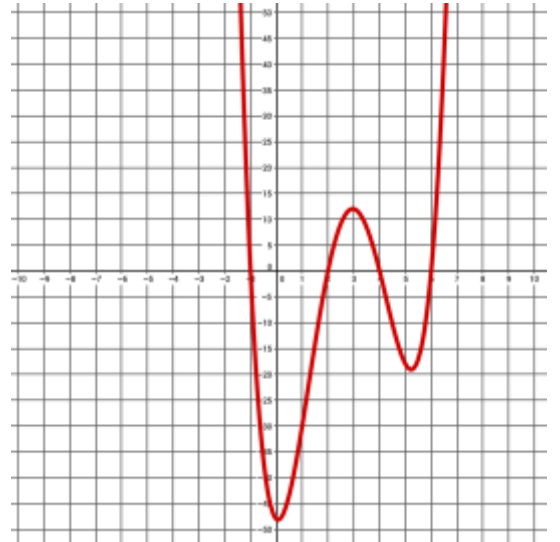
x-intercepts:

$(-1, 0), (2, 0), (4, 0), (6, 0)$

$f(x) \rightarrow +\infty$ as $x \rightarrow -\infty$

$f(x) \rightarrow +\infty$ as $x \rightarrow +\infty$

x	y



5) $f(x) = -(x + 3)(x + 1)(x - 2)(x - 6)$

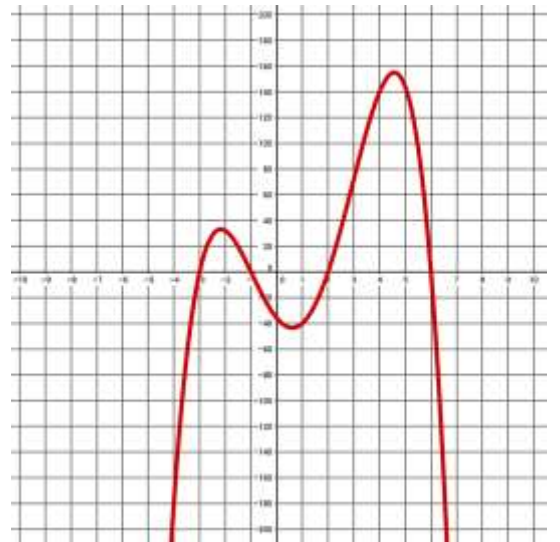
x-intercepts:

$(-3, 0), (-1, 0), (2, 0), (6, 0)$

$f(x) \rightarrow -\infty$ as $x \rightarrow -\infty$

$f(x) \rightarrow -\infty$ as $x \rightarrow +\infty$

x	y



6) $f(x) = x^2(x + 8)(x + 5)$

x-intercepts:

$(0, 0), (-8, 0), (-5, 0)$

$f(x) \rightarrow +\infty$ as $x \rightarrow -\infty$

$f(x) \rightarrow +\infty$ as $x \rightarrow +\infty$

x	y

