

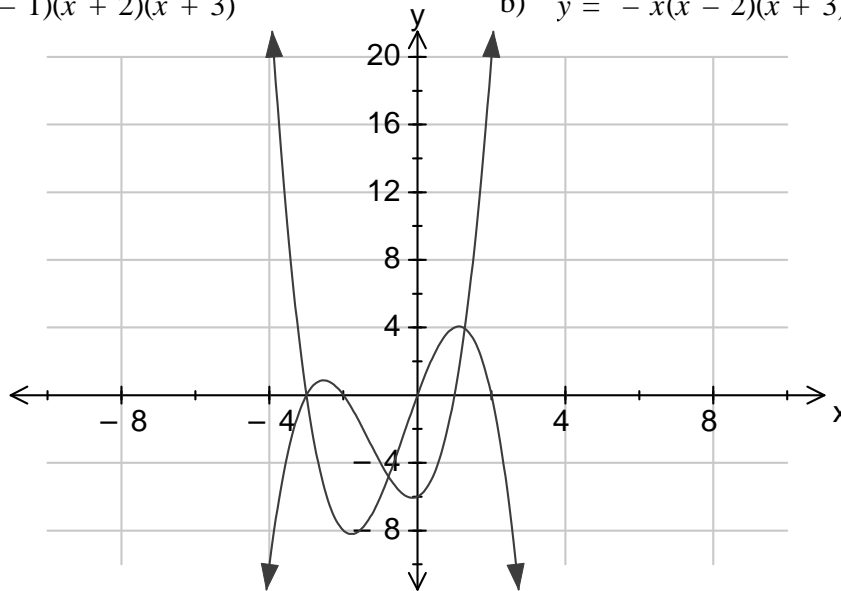
(C1-4.1a) Name:

## Homework Questions 1 – Cubic Graphs

1. Plot the following graphs on the axis below

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

b)  $y = -x(x - 2)(x + 3)$



2. Find the y intercept of the following graphs

a)  $y = (x + 4)(x - 2)(x + 6)$

Y intercept = -48

b)  $y = x(x - 3)(x + 5)$

Y intercept = 0

c)  $y = (x - 4)(x - 1)(x + 2)$

Y intercept = 8

d)  $y = (x - 9)(3x + 2)(5x - 1)$

Y intercept = 18

3. Find the x intercepts of the following graphs

a)  $y = (x - 6)(x - 4)(x - 2)$

X intercept = 2, 4, 6

b)  $y = x(x + 3)(x - 5)$

X intercept = -3, 0, 5

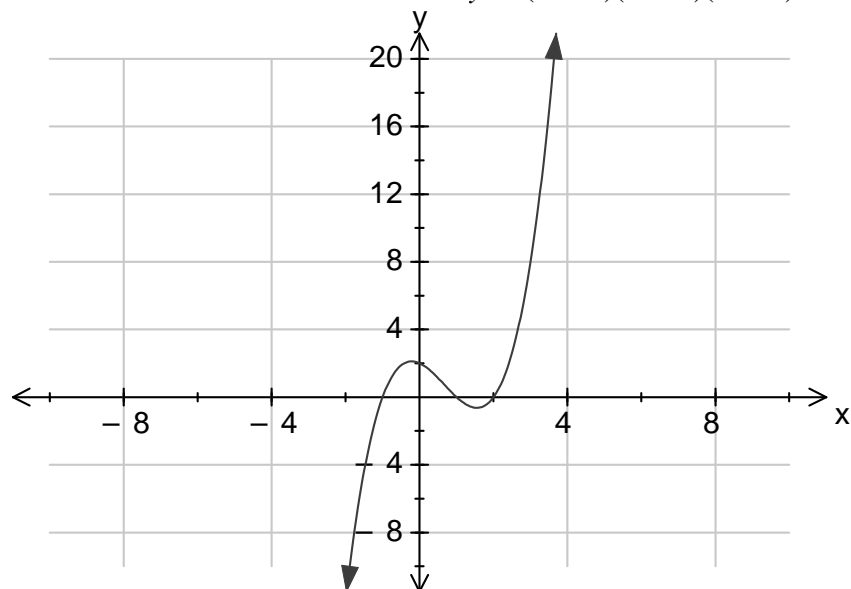
c)  $y = (2x - 3)(x - 7)(7x - 2)$

X intercept = 0.286, 1.5, 7

d)  $y = (3x + 2)(x - 4)(4x - 1)$

X intercept = -0.67, 0.25, 4

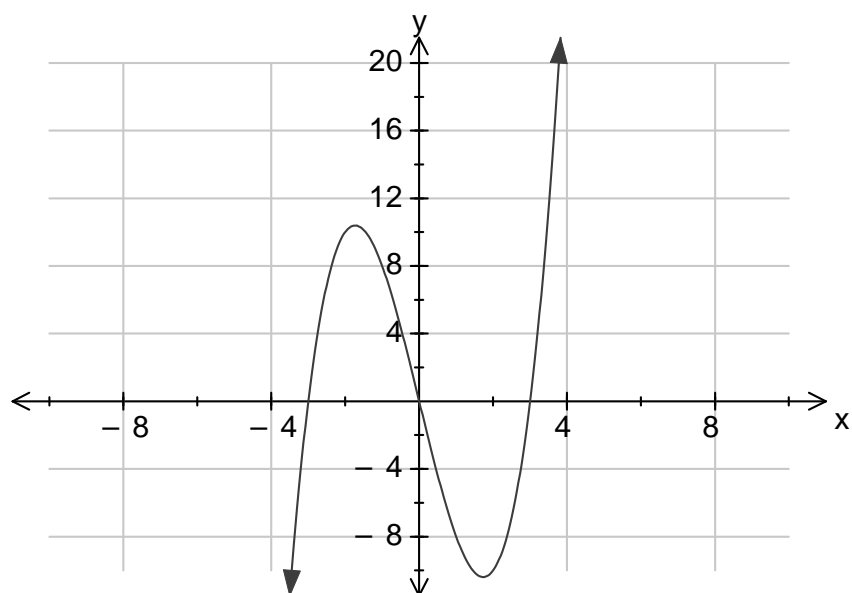
4. Draw the graph and state the special features of  $y = (x - 2)(x - 1)(x + 1)$



Special Features

Intersection (-2,0) (1,0)(-1,0)(0,2) 2 Turning Points, 1 point of inflection

5. Draw the graph and state the special features of  $y = x^3 - 9x$



Special Features

Intersection (-3,0)(3,0)(0,0) 2 Turning Points, 1 point of inflection