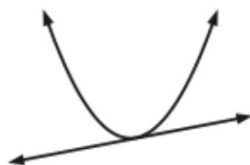


E**WHERE FUNCTIONS MEET**

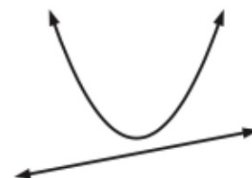
When a linear and a quadratic function meet, there can be up to two points of intersection.



cutting
(2 points of intersection)

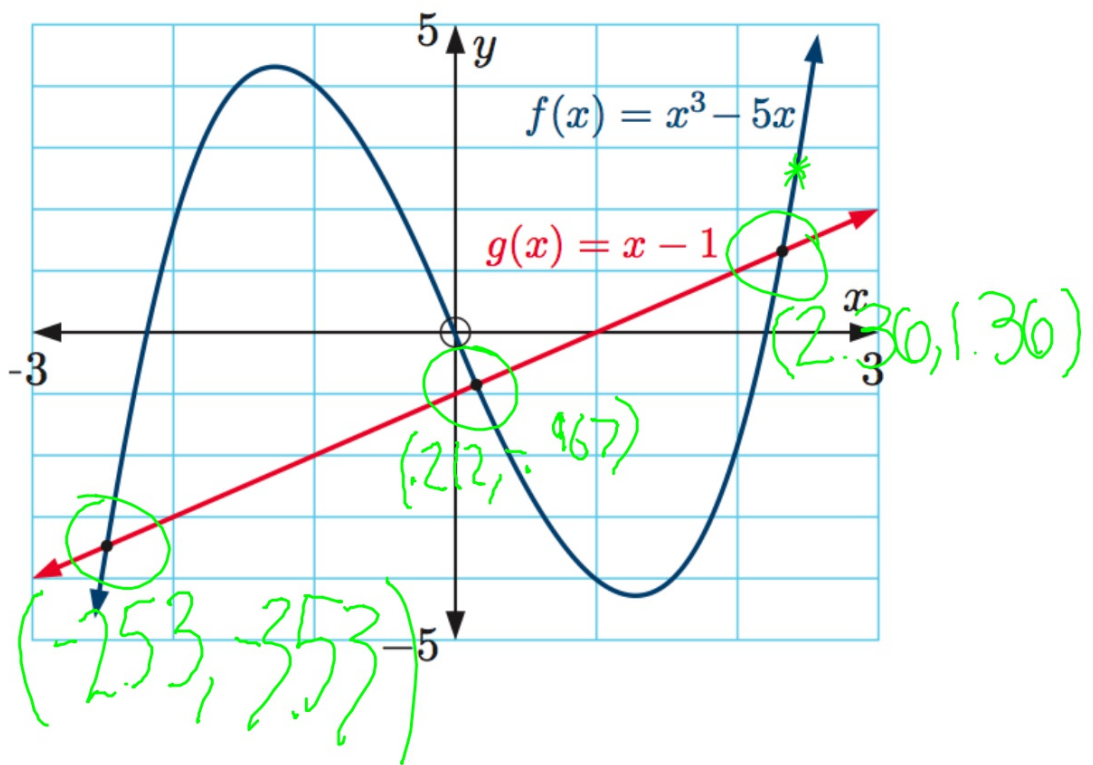


touching
(1 point of intersection)



missing
(no points of intersection)

For other combinations of functions, there may be three or more points of intersection.



Use technology to find the intersection point of $f(x) = x^3 - 3x^2 - 5x$ and $g(x) = 4x - 2$.

Hence, solve the equation $x^3 - 3x^2 - 5x = 4x - 2$.

$$-8 - 12 + 10 = -8 - 2$$

$$(-2, -10)$$

$$(0.209, -1.17)$$

$$(4.79, 17.2)$$

Solutions

$$-2, 0.209,$$

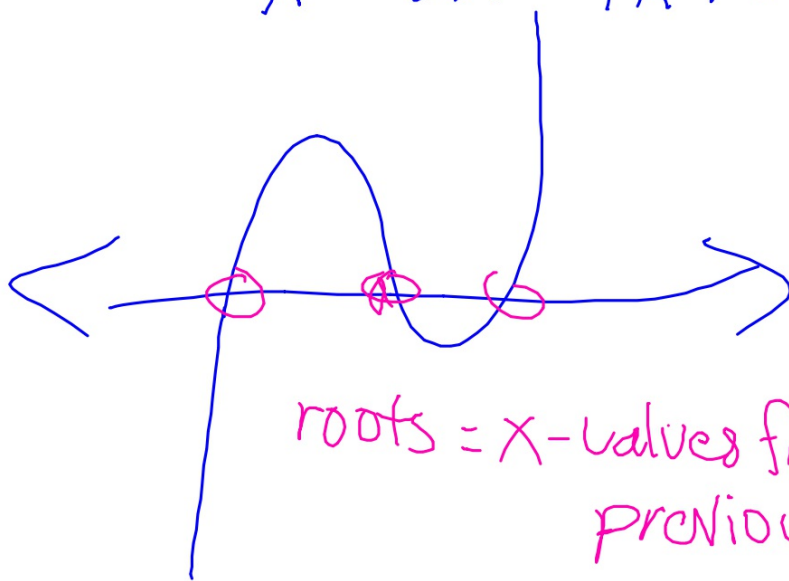
$$4.79$$

Use technology to find the intersection point of $f(x) = x^3 - 3x^2 - 5x$ and $g(x) = 4x - 2$.

Hence, solve the equation $x^3 - 3x^2 - 5x = 4x - 2$.

$$-4x + 2$$

$$x^3 - 3x^2 - 9x + 2 = 0$$



roots = x-values from
previous page.

Exercise 19 E #2d-f, 4, 7, 8