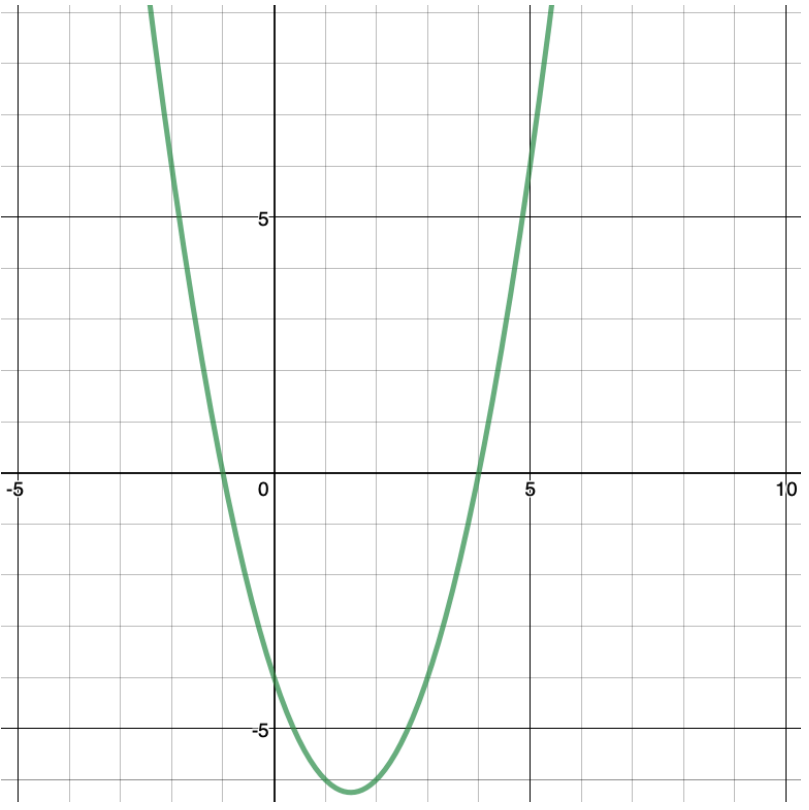


AQA A-Level Mathematics Warmup - Paper 2 2019

<p>What quadratic function is shown on the grid below?</p>	<p>By adding a linear function to the graph shown solve the equation $x^2 - x - 6 = 0$</p>	<p>Factorise $(x - 3)^2(x + 4) + 4(x - 3)^3$</p>	<p>Solve $x^2 - 2x - 3 \geq 0$</p>	<p>The destination tower of a cable car is 169m above the base tower. The towers are 632 m apart. Find the angle of elevation.</p>
	<p>Three points on the plane $A(3,2)$, $B(4,7)$ and $C(8,5)$ form a triangle.</p> <p>a) Find the length AB. b) Find the length BC. c) Find the acute angle between AB and BC. d) Find the area of the triangle.</p>	<p>Factorise $2x^2 - 3xy - 20y^2$</p>	<p>Expand $(x^2 + x - 1)(x^2 + 2x - 3)$</p>	<p>John and Beryl are making citrus pressé. They are using different recipes. John buys 3 oranges and 2 lemons for £1.34 and Beryl buys 5 oranges and 1 lemon for 1.72. Given that they buy these from the same shop find the cost of each orange and lemon.</p>
	<p>For the function $f(x) = x^2 - 3, x \geq 0$ find $f^{-1}(x)$ and state its domain.</p>	<p>The nth term of a quadratic sequence is $n^2 + 4n$. find which two consecutive terms have a sum of 213.</p>	<p>Find the limiting value of the sequence $u_n = \frac{5n + 1}{4n - 3}$</p>	<p>Simplify $\sqrt{18} - \sqrt{8}$</p>
	<p>Find the coordinate of the turning point and the equation of the line of symmetry of the above graph.</p>	<p>How many times does the circle centre $(3,3)$ and radius 5 intersect the parabola shown above?</p>	<p>Sketch $f(x) = x^2 - 3, x \geq 0$ and its inverse on the same graph</p>	<p>Evaluate $\begin{pmatrix} 3 & 4 \\ 1 & 1 \end{pmatrix} \begin{pmatrix} 4 & 1 \\ 1 & 0 \end{pmatrix}$</p>

AQA A-Level Mathematics Warmup - Paper 2 2019 - Solutions

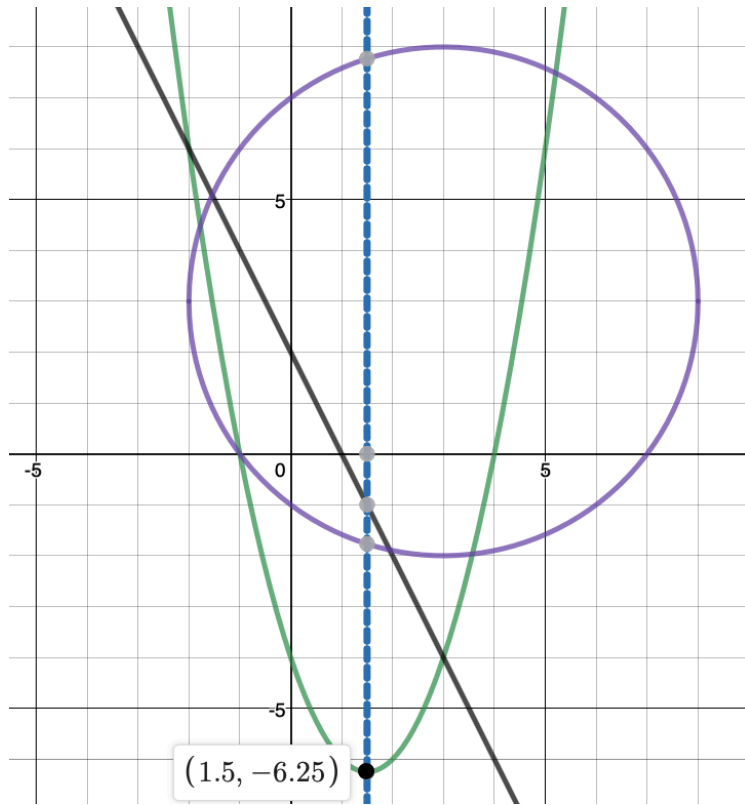
$$y = x^2 - 3x - 4$$

Plot the line $y = -2x + 2$.
Solutions are $x = -2$ and
 $x = 3$

$$(x - 3)^2(5x - 8)$$

$$-1 \leq x \leq 3$$

$$14.97^\circ$$



- a) ≈ 5.1
- b) ≈ 4.47
- c) $\approx 74.74^\circ$
- d) ≈ 11

$$(2x + 5y)(x - 4y)$$

$$x^4 + 3x^3 - 2x^2 - 5x + 3$$

$$\frac{5}{4}$$

Orange costs 30p and a
lemon costs 22p.

$$y = \sqrt{x + 3}$$

Domain $x \geq -3$

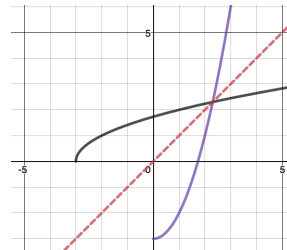
Terms 8 and 9.

$$\sqrt{2}$$

$$\left(\frac{3}{2}, \frac{25}{4}\right)$$

$$x = \frac{3}{2}$$

4 times.



$$\begin{pmatrix} 16 & 3 \\ 5 & 1 \end{pmatrix}$$

$$y = -\frac{x}{14} + \frac{106}{7}$$