N5 Maths: Quadratic Graphs

Answers

Question	Roots	Turning point	Nature of turning point	Intersection with y-axis
1 (a)	$x = 1, x = 5$	(3,-4)	minimum	(0,5)
1 (b)	$x = 2, x = 8$	(5,-9)	minimum	(0,16)
1 (c)	$x = 3, x = 7$	(5,-4)	minimum	(0,21)
2 (a)	$x = -1, x = 3$	(1,-4)	minimum	(0,-3)
2 (b)	$x = -5, x = -3$	(-4,-1)	minimum	(0,15)
2 (c)	$x = -4, x = 2$	(-1,-9)	minimum	(0,-8)
3 (a)	$x = 1, x = 4$	$\left(\frac{5}{2}, -\frac{9}{4}\right)$	minimum	(0,4)
3 (b)	$x = -2, x = 3$	$\left(\frac{1}{2}, -\frac{25}{4}\right)$	minimum	(0,-6)
3 (c)	$x = -7, x = -4$	$\left(-\frac{11}{2}, -\frac{9}{4}\right)$	minimum	(0,28)
4 (a)	$x = \frac{1}{2}, x = \frac{3}{2}$	(1,-1)	minimum	(0,3)
4 (b)	$x = -\frac{1}{2}, x = 3$	$\left(\frac{5}{4}, -\frac{49}{8}\right)$	minimum	(0,-3)
4 (c)	$x = -\frac{3}{4}, x = \frac{5}{2}$	$\left(\frac{7}{8}, -\frac{169}{8}\right)$	minimum	(0,-15)
5 (a)	$x = 2, x = 4$	(3,1)	maximum	(0,-8)
5 (b)	$x = -\frac{1}{2}, x = 5$	$\left(\frac{9}{4}, \frac{121}{8}\right)$	maximum	(0,5)
5 (c)	$x = \frac{2}{3}, x = \frac{3}{2}$	$\left(\frac{13}{12}, \frac{25}{24}\right)$	maximum	(0,-6)
6 (a)	$x = 3, x = 9$	(6,-9)	minimum	(0,27)
6 (b)	$x = 2, x = 4$	(3,-1)	minimum	(0,8)
6 (c)	$x = -5, x = -3$	(-4,-1)	minimum	(0,15)
7 (a)	$x = \frac{1}{2}, x = \frac{7}{2}$	(2,-9)	minimum	(0,7)
7 (b)	$x = 1, x = 5$	(3,4)	maximum	(0,-5)
7 (c)	$x = -\frac{7}{2}, x = \frac{3}{2}$	(-1,25)	maximum	(0,21)
8 (a)	$x = -3, x = 7$	(2,-25)	minimum	(0,-21)
8 (b)	$x = -\frac{1}{2}, x = \frac{1}{3}$	$\left(-\frac{1}{12}, -\frac{25}{24}\right)$	minimum	(0,-1)
8 (c)	$x = -1, x = 3$	(1,4)	maximum	(0,3)
8 (d)	$x = -2, x = 0$	(-1,-1)	minimum	(0,0)
8 (e)	$x = 1, x = 5$	(3,8)	maximum	(0,-10)
8 (f)	$x = \frac{1}{2}, x = \frac{3}{4}$	$\left(\frac{5}{8}, -\frac{1}{8}\right)$	minimum	(0,3)

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