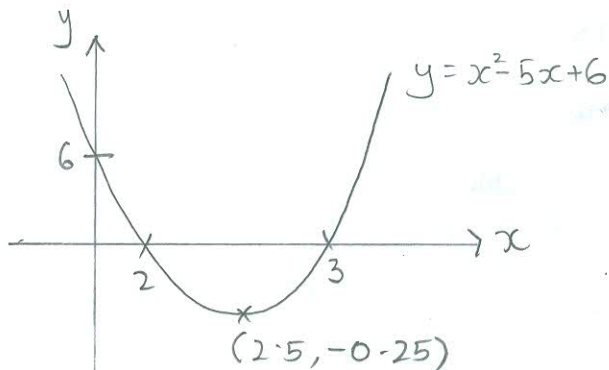


Exercise:

Sketch the following graphs

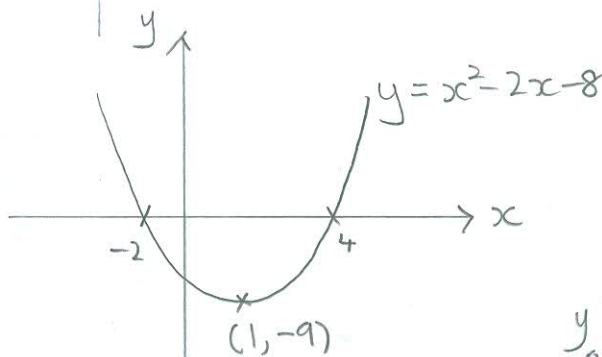
Q1 $y = x^2 - 5x + 6$

- ① U-shape
- ② $x = 2$ or 3
- ③ $y = 6$
- ④ T.P = $(2.5, -0.25)$



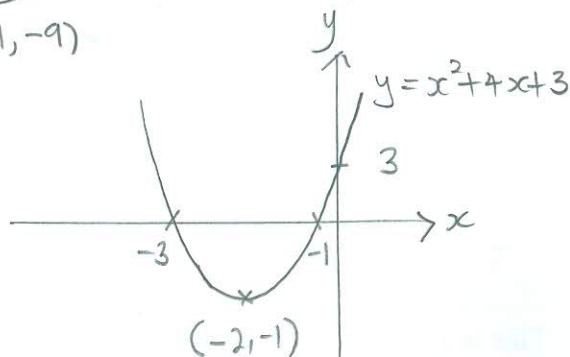
Q2 $y = x^2 - 2x - 8$

- ① U-shape
- ② $x^2 - 2x - 8 = 0$
 $(x-4)(x+2) = 0$
 $x = 4$ or -2
- ③ $y = -8$
- ④ T.P = $(1, -9)$



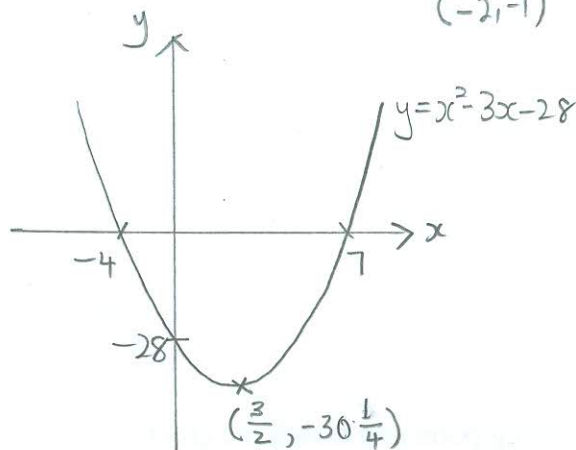
Q3 $y = x^2 + 4x + 3$

- ① U-shape
- ② $x^2 + 4x + 3 = 0$
 $(x+3)(x+1) = 0$
 $x = -1$ or -3
- ③ $y = 3$
- ④ T.P = $(-2, -1)$



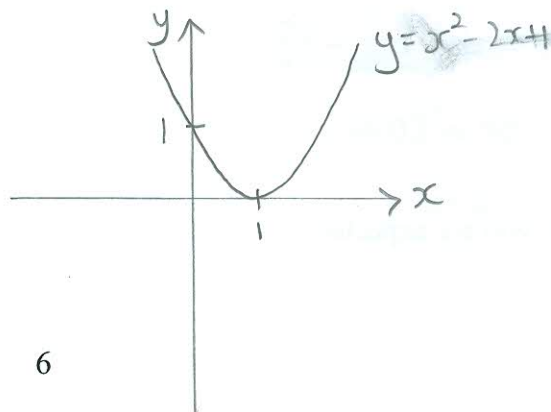
Q4 $y = x^2 - 3x - 28$

- ① U-shape
- ② $x^2 - 3x - 28 = 0$
 $(x-7)(x+4) = 0$
 $x = 7$ or -4
- ③ $y = -28$
- ④ T.P = $(\frac{3}{2}, -30\frac{1}{4})$



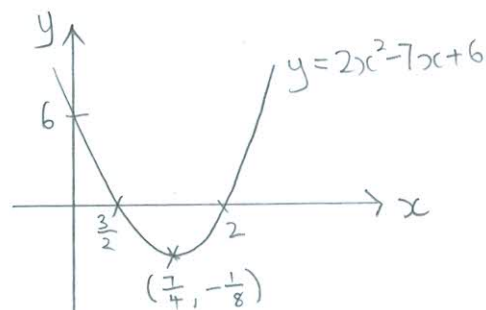
Q5 $y = x^2 - 2x + 1$

- ① U-shape
- ② $(x-1)^2 = 0$
 $x = 1$
- ③ $y = 1$
- ④ T.P = $(1, 0)$



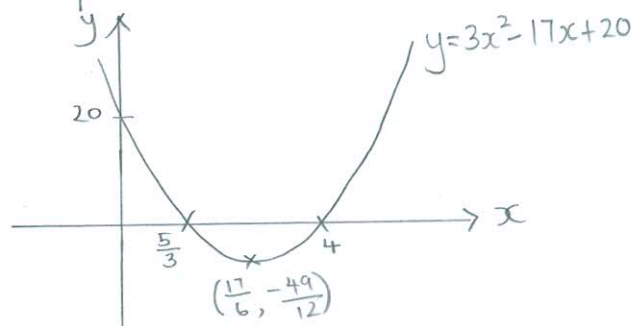
Q6) $y = 2x^2 - 7x + 6$
 $= (2x - 3)(x - 2)$

- ① U-shape
- ② $x = \frac{3}{2}$ or 2
- ③ $y = 6$
- ④ T.P. = $(\frac{7}{4}, -\frac{1}{8})$



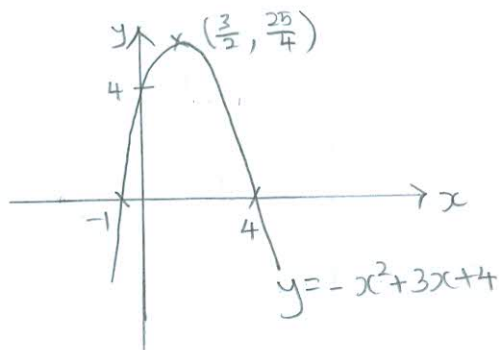
Q7) $y = 3x^2 - 17x + 20$
 $= (3x - 5)(x - 4)$

- ① U-shape
- ② $x = \frac{5}{3}$ or 4
- ③ $y = 20$
- ④ T.P. = $(\frac{17}{6}, -\frac{49}{12})$



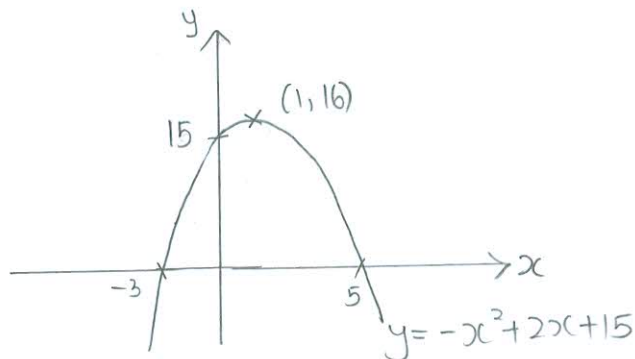
Q8) $y = -x^2 + 3x + 4$
 $= -(x^2 - 3x - 4)$
 $= -(x - 4)(x + 1)$

- ① n-shape
- ② $x = 4$ or -1
- ③ $y = 4$
- ④ T.P. = $(\frac{3}{2}, \frac{25}{4})$



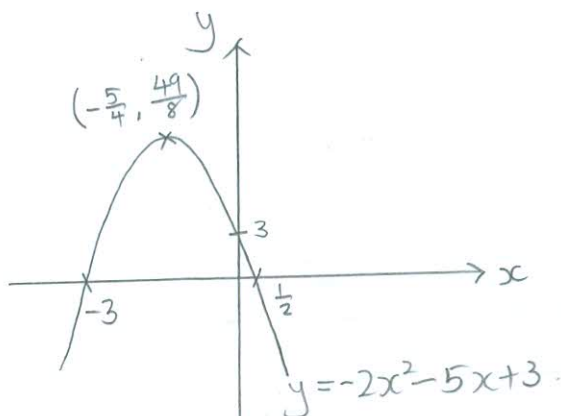
Q9) $y = -x^2 + 2x + 15$
 $= -(x^2 - 2x - 15)$
 $= -(x - 5)(x + 3)$

- ① n-shape
- ② $x = 5$ or -3
- ③ $y = 15$
- ④ T.P. = $(1, 16)$



Q10) $y = -2x^2 - 5x + 3$
 $= -(2x^2 + 5x - 3)$
 $= -(2x - 1)(x + 3)$

- ① n-shape
- ② $x = \frac{1}{2}$ or -3
- ③ $y = 3$
- ④ T.P. = $(-\frac{5}{4}, \frac{49}{8})$



Q11) $y = -x^2 - 6x + 27$
 $= -(x^2 + 6x - 27)$
 $= -(x - 3)(x + 9)$

- ① n-shape
- ② $x = 3$ or -9
- ③ $y = 27$
- ④ T.P. = $(-3, 36)$

