

## Working With Quadratic Equations

### Finding Missing Values

P168 Revision Question.

1. b)  $a = 1$   
 $b = -12$  e)  
 $c = k - 4$

For equal roots  $b^2 - 4ac = 0$

$$b^2 - 4ac = (-12)^2 - (4 \times 1 \times (k - 4)) = 0$$

$$144 - 4k + 16 = 0$$

$$4k = 160$$

$$k = \underline{\underline{40}}$$

- 1 a  $k = \{-8, 8\}$   
b  $k = 40$   
c  $k = \{0, 5\}$   
d  $k = \{-1, 4\}$   
e  $k = \{-1, 3\}$   
2 a  $k = 4$   
b  $x = \left(-\frac{2}{3}\right)$

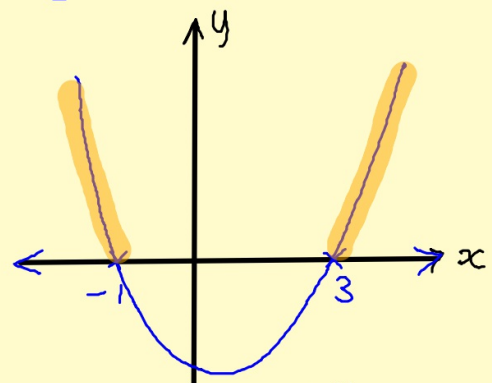
## P168 Solving Quadratic Inequalities

Q3a) Solve  $x^2 - 2x - 3 > 0$

$$(x - 3)(x + 1) = 0$$

Solutions:  $x = 3$   $x = -1$

$$\underline{\underline{x < -1, x > 3}}$$



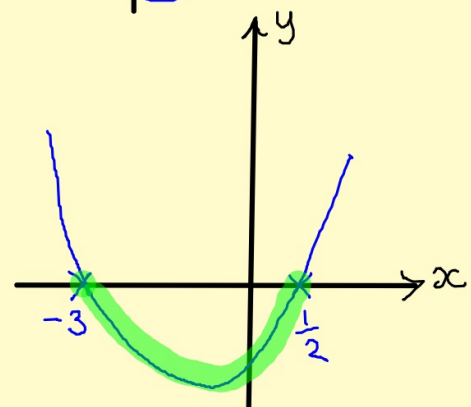
b) Solve  $2x^2 + 5x - 3 \leq 0$

$$(2x - 1)(x + 3) = 0$$

Solutions  $x = \frac{1}{2}$   $x = -3$

$$\underline{\underline{-3 \leq x \leq \frac{1}{2}}}$$

or  $\underline{\underline{x \geq -3, x \leq \frac{1}{2}}}$



Now try P169 Q5