

1) Mock exam Sam Cashell

(i) $x^2 + 8x + 15 = 0$

$$3 \times 5 = 15$$

$$3 + 5 = 8$$

$$(x+3)(x+5) = 0$$
$$x^2 + 5x + 3x + 15$$
$$= 8x$$

$$x+3=0 \quad x+5=0$$

$$\boxed{x=-3} \quad \boxed{x=-5}$$

(ii) $x^2 - 225 = 0$

$$\pm\sqrt{225} = 15$$

$$(x+15)(x-15) = 0$$

$$x^2 - 15x + 15x - 225$$

$$x^2 - 225$$

$$x+15=0 \quad x-15=0$$

$$x=-15 \quad x=15$$

$$x = \pm\sqrt{225}$$

$$\boxed{x = \pm 15}$$

(iii) $x^2 + 11x + 30 = 0$

$$5 \times 6 = 30$$

$$5 + 6 = 11$$

$$(x+5)(x+6) = 0$$
$$x^2 + 6x + 5x + 30 = 0$$
$$= 11x$$

$$x+5=0 \quad x+6=0$$

$$\boxed{x=-5} \quad \boxed{x=-6}$$