

(c) i) $21R^2 + 24R + 5$
 $(4r+5)(3r+1)$

ii) $81Q^2 - 144Q + 64$
 $9(3Q+4Q)(3Q-4Q)$

iii) $6r - 6y + ur - uy$
 $(6+y)(r-y)$

iv) $x^2 + 9x + 8 = 0$
 $(x+8)(x+1) = 0$
 $x+8=0$ $x+1=0$
 $x=-8$ $x=-1$

ii) $17x^2 - 5x - 3 = 0$
 $17x^2 + 4x - 4x - 3 = 0$
 $4x(3x+1) - 3(3x+1) = 0$
 $(3x+1)(4x-3) = 0$
 $3x+1=0$ $4x-3=0$
 $x = -\frac{1}{3}$ $x = \frac{3}{4}$

$x = 0.3$ $x = 0.75$

iii) $2x^2 + 17x = -30$
 $2x^2 + 17x + 30 = 0$
 $2x(x+6) + 5(x+6) = 0$
 $(x+6)(2x+5) = 0$
 $x+6=0$ $2x+5=0$
 $x=-6$ $x = -\frac{5}{2}$

$x = 2.5$

iv) $x^2 - 256 = 0$
 $x^2 = 256$

$\sqrt{256} = 16$
 $x = \pm 16$ $x = 16$

e) $(x+5)^2 - x^2 - 32 = (x+1)$
 $(x+5)^2 - x^2 - 32 = (x+1)(x+2) - x^2$
 $x^2 + 10x + 25 - 32 = x^2 + 3x + 2 - x^2$
 $10x + 25 - 32 = 3x + 2$
 $10x - 7 = 3x + 2$
 $10x - 3x = 2 + 7$
 $7x = 9$
 $x = \frac{9}{7}$

$x = 1.285714$