

Factorising Quadratics with a coeff

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1) Factorising Quadratics with a coefficient greater than 1: Easier

1) Solve
$$(4x + 2)(x - 1) = 0$$

$$4x+2=0$$
 $4x=-2$
 $x=-\frac{2}{4}=\frac{1}{2}$
 $x=-\frac{2}{4}=\frac{1}{2}$

75 = 1/2 and 1 (2 Marks)

2) Solve
$$3x^2 + 7x + 2 = 0$$

A/L
$$\times > 6$$
 $+ > 7$
 $3 x^2 + 6 x + 2 = 0$
 $3 x + 2 + 1 + 1 + 2 = 0$
 $3 x + 1 + 2 = 0$
 $3 x + 1 = 0$
 $3 x + 1 = 0$
 $3 x + 2 = 0$

7C= 1/3 and -2

(2 Marks)

3) Solve
$$2a^2 + 7a + 5 = 0$$

$$9a^{2}+2a+5a+5=0$$
 $2a(a+1)+5(a+1)=0$
 $(2a+5)(a+1)=0$
 $2a+5=0$ $0=-1$
 $2a=-5/2$

 $a = \frac{5}{2}$ and = 1

4) Solve $2x^2 + 5x - 3 = 0$

$$29c^{2} + 6x - 2c - 3 = 0$$
 $29c(9c + 3) - 1(2c + 3) = 0$
 $(29c - 1)(1c + 3) = 0$
 $2x - 1 = 6$
 $3c - 1 = 6$

21 = 1/2 and -3

(2 Marks)



1) Factorising Quadratics with a coefficient greater than 1: Medium

5) Solve
$$6x^2 - x - 15 = 0$$

$$5) \text{ solve } 6x - x - 15 = 0$$

$$6nc^{2} + 9n - 10x - 15 = 0$$

$$3x(2n + 3) - 5(2n + 3) = 0$$

$$(3x - 5)(2n + 3) = 0$$

$$30(-5=0)$$
 $20(+3=0)$
 $30(=5)$ $20(=-3)$
 $3(=-3)$

$$\frac{2C = \frac{3}{3} \text{ and } \frac{3}{2}}{2}$$
(2 Marks)

6) Solve, by factorising, the equation $8x^2 - 30x - 27 = 0$

$$8 \times 2 - 36 \times (+6 \times (-27 = 0))$$

 $4 \times (2x - 9) + 3(2x - 9) = 0$
 $4 \times (2x - 9) = 0$

$$49C+3=6$$
 $2x-9=0$
 $49C=3$ $2x=9$
 $3C=3/4$ $x=9/2$

(2 Marks)

7) Simplify

Factoria
$$2x^2-5x+3$$

 $x > 6$, $x > -5$
 $2x(2x-1) - 3(2x-1)$
 $(2x-3)(2x-1)$

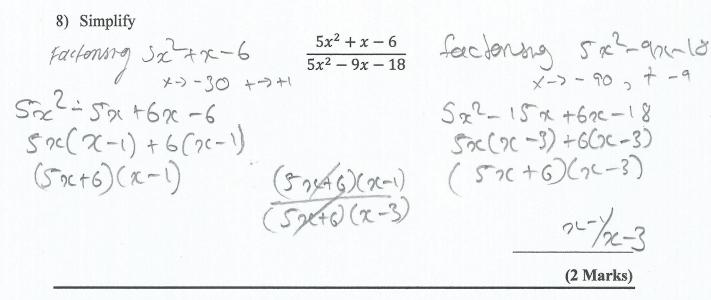
 $\frac{2x^2 - 5x + 3}{2x^2 - x - 3}$

factorial
$$2x^2-x-3$$

 $4-3-6$; $+,-1$
 $2x^2+2x-3x-3$
 $2x(x+1)-3(x+1)$
 $(2x-3)(x+1)$



1) Factorising Quadratics with a coefficient greater than 1: Harder



9) The two rectangles have the same area

a) Write an equation showing this.

$$3(4n-1) = 6ne-2)(ne-2)$$

$$4ne^2 - 3ne^2 + 6ne-2ne-4$$

$$4ne^2 - 3ne^2 - ne-6ne+2ne+4=0$$

$$ne^2 - 5ne+4=0$$

$$ne^2 - 5ne+4=0$$

b) Solve the equation. These are two possible solutions for the areas of these rectangles. Find them both.

$$9c^2 - 59c + 4 = 0$$
 Area $1 = (49c - 1)(x)$
 $(9c - 4)(9c - 1) = 0$ $(4(4) - 1)(4)$
 $9c - 4 = 0$ $9c - 1 = 0$ Area $2 = (412c - 1)(9c)$
 $9c = 4$ $9c = 1$ $(4(2) - 1)(1)$

60 and 3.

3 X 1 = 3