Solving quadratic equations by factorising (Part 1)

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Name:

Factorise and solve the following equations:

a) $x^2 + 3x + 2 = 0$

x = -2 or x = -1

b) $x^2 + 6x + 5 = 0$

x = -5 or x = -1

c) $x^2 + 8x + 12 = 0$

x = -6 or x = -2

d) $x^2 + 10x + 24 = 0$

x = -6 or x = -4

e) $a^2 + 9a + 18 = 0$

x = -6 or x = -3

f) $x^2 + 4x + 3 = 0$

x = -3 or x = -1

g) $s^2 + 12s + 20 = 0$

s = -10 or s = -2

h) $x^2 + 4x - 21 = 0$

x = -7 or x = 3

i) $x^2 + 5x - 24 = 0$

x = -8 or x = 3

j) $x^2 - 4x - 21 = 0$

x = -3 or x = 7

k) $x^2 - 13x + 42 = 0$

x = 6 or x = 7

l) $x^2 - 10x + 25 = 0$

x = 5 (repeated root)

m) $a^2 - 5a + 4 = 0$

a = 1 or a = 4

n) $x^2 - x - 56 = 0$

x = -7 or x = 8

o) $x^2 - 2x - 48 = 0$

x = -6 or x = -8

p) $x^2 - 14x + 24 = 0$

x = 2 or x = 12

Tricky Questions: Factorise:

a) $s^2 + (a + 5)s + 5a$

(s + 5)(s + a)

b) $x^2 + 2hx + h^2$

(x + h)(x + h)

c) $x^2 - (a - b) - ab$

(x + b)(x - a)

d) $x^2 - 2nx + n^2$

(x – n)(x – n)

Exam question:

a) Factorise: $x^2 - 7x - 30$

(x + 10)(x - 3)

b) Factorise: $x^2 + xz + xy + yz$

(x + y)(x + z)