Factorising Expressions

How to . . .

(a) Factorise 6 + 9x

make sure you take out the biggest factor

$3(2+3x)$

I always like to check by expanding out too...

$3(2+3x) = 6+9x$ ✓

(1)

(b) Factorise $y^2 - 16$

this is a special case known as 'difference of two squares"

$=(y+4)(y-4)$

this could have been written $(y-4)(y+4)$

check → $(y+4)(y-4)$

$y^2-4y+4y-16 = y^2-16$ ✓

(1)

(c) Factorise $2p^2 - p - 10$

$a=2 \quad b=-1 \quad c=-10 \qquad a\times c = -20 \quad b=-1$

We need 2 numbers whose product is -20 and sum is -1

$-5\times4=-20 \quad -5+4=-1$

$2p^2-p-10 = 2p^2+4p-5p-10$

$= 2p(p+2)-5(p+2) = (2p-5)(p+2)$ **(2)**

Now have a go yourself . . .

SORTED IT

a) 12b + 8 **b)** 2 - 6y **c)** 2y - 2

d) 5p + 10q **e)** 14t - 7 **f)** xt - yt

g) 9a + 18b **h)** $q^2 - q$ **i)** $4x^2 + 3x$

NAILED IT

a) 5xy + 5xt **b)** 3ad - 3ac **c)** 6pq + 4hp

d) 8xy + 4hp **e)** mn - kmn **f)** $12s^2 - 24s$

g) $6f^2 + 2f^3$ **h)** $y^4 + y^2$ **i)** $a^3b + ab^3$

MASTERED IT

a) $x^2 + 8x + 15$ **b)** $x^2 + 8x + 7$

c) $x^2 + 6x + 9$ **e)** $x^2 - 6x + 5$

f) $x^2 + 3x—18$ **g)** $x^2 + 2x - 24$

h) $x^2 - 36$ **i)** $x^2 - 49$

j) $3x^2 - 7x + 4$ **k)** $5x^2 + 16x + 3$

l) $2x^2 + 11x + 5$ **m)** $3x^2 + 4x + 1$

n) $8x^2 + 6x + 1$ **o)** $8x^2 + 2x - 3$

Exam Questions

Factorise

a) $5x - 10$

b) $2p^2 - 4pq$

c) $x^2 - 2x - 8$

d) $p^2 + p$

e) $4m^2 - 12mn$

f) $2x^2 - 9x + 4$

g) $9x^2 - 6x + 1$

Ready to be marked ?

Checklist

- ☐ Answer checked
- ☐ Have you factorised fully?

Keywords

Things to remember …

What went well …

Teacher comment ..