

Quiz #2B – Factoring

[12 marks]

1. What type of factoring should you **always** attempt first? [1 mark]

Common

2. Factor. [2 marks]

a. $x^2 - 7x + 12$

$$= (x - 3)(x - 4)$$

M: 12

A: -7

N: -3, -4

b. $z^2 + 6z - 16$

$$= (z + 8)(z - 2)$$

M: -16

A: 6

N: 8, -2

3. Factor [2 marks]

Difference of squares!

a. $w^2 - 16$

$$= (w - 4)(w + 4)$$

b. $4h^2 - 9$

$$= (2h - 3)(2h + 3)$$

4. Factor. [4 marks]

a. $4g^2 - 12g + 9$ M: 36
A: -12
N: -6, -6

$$\begin{aligned} &= 4g^2 - 6g - 6g + 9 \\ &= 2g(2g - 3) - 3(2g - 3) \\ &= (2g - 3)(2g - 3) \\ &= (2g - 3)^2 \end{aligned}$$

b. $6a^2 - a - 5$ M: -30
A: -1
N: -6, 5

$$\begin{aligned} &= 6a^2 - 6a + 5a - 5 \\ &= 6a(a - 1) + 5(a - 1) \\ &= (a - 1)(6a + 5) \end{aligned}$$

5. Factor $100j^2 - 200j - 300$ [3 marks]

$$\begin{aligned} &= 100(j^2 - 2j - 3) && \text{M: -3} \\ &= 100(j - 3)(j + 1) && \text{A: -2} \\ & && \text{N: -3, 1} \end{aligned}$$