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The file: Worksheet about Pattern, sequence and factorisation

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Section B
Answer **all** questions.
(20 marks)

1. Match the number sequences with the correct pattern.

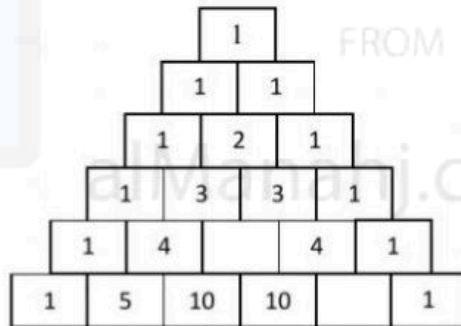
(4 marks)

Number sequences	Pattern
4, 8, 12, 16, ...	$2n + 2, n=1, 2, 3, \dots$
1, 8, 27, 64, ...	$4n - 1, n=1, 2, 3, \dots$
3, 7, 11, 15, ...	$4n, n=1, 2, 3, \dots$
4, 6, 8, 10, ...	$n^3, n=1, 2, 3, \dots$

2. Complete the following sequence by filling in the blanks.

(4 marks)

a.



b. 1, ____, 2, 3, 5, ____,

3. Mark (/) for the sequence and (x) if not a sequence.

(4 marks)

a. -10, -6, -7, 1, -12, 3, ...

b. -2, -4, -8, -16, -32, ...

c. $\frac{1}{4}, \frac{3}{8}, \frac{1}{2}, \frac{5}{8}, \frac{3}{4}, \dots$

d. 0.04, 0.16, 0.64, 2.56, ...

4. Match each of the following algebraic expression with the correct answer. (4 marks)

$\left(\frac{a}{4}\right)^2$
$\left(-\frac{a}{2}\right) \times \left(-\frac{a}{3}\right)$
$\left(-\frac{a}{2}\right) \times \left(-\frac{a}{2}\right)$
$\left(\frac{a}{3}\right)^2$

$\frac{a^2}{4}$
$-\frac{a^2}{9}$
$-\frac{a^2}{6}$
$\frac{a^2}{16}$
$\frac{a^2}{9}$

5. Complete the factorisation using cross multiplication method using the correct method. (4 marks)

$$2r^2 - 5rs - 3s^2 = (2r + s)(\quad)$$

