1 Expand $4x^2(3x + 5)$

Circle your answer.

[1 mark]

$32x^3$ $12x^3 + 20x^2$ $7x^3 + 9x^2$ $12x^2 + 5$

1

2 $(2x - 4)(3x + 5)$ is expanded and simplified.

$6x^2 + 10x - 12x - 20$

$6x^2 - 2x - 20$

Circle the term which is part of the answer.

[1 mark]

$2x$ $-2x$ $22x$ $-22x$

1

3 $12x^3 + 7x^2 + 3x - 10 \equiv 2(ax^3 + x^2 + 2x - 5) + x(bx + c)$

Work out the values of a, b and c.

[3 marks]

$2ax^3 + 2x^2 + 4x - 10 + bx^2 + cx$

$= 2ax^3 + (2+b)x^2 + (4+c)x - 10$ (1)

(1)

$2a = 12$ $\quad 2+b = 7$ $\quad 4+c = 3$

$a = 6$ $\quad b = 5$ $\quad c = -1$

(1)

$a = 6$ $\quad b = 5$ $\quad c = -1$

4 Expand and simplify fully $5(3x + 4) - 2(x - 1)$

[2 marks]

$15x + 20 - 2x + 2$

$13x + 22$

(2)

Answer $13x + 22$

5 Expand $(x^2 - 9xy)(2x + 5y)$

[2 marks]

$2x^3 + 5x^2y - 18x^2y - 45xy^2$ (1)

$= 2x^3 - 13x^2y - 45xy^2$

Answer $2x^3 - 13x^2y - 45xy^2$ (1)

6 Expand $6x^2(x^3 + 2)$

Circle your answer.

[1 mark]

$6x^5 + 2$ $6x^6 + 2$ $6x^5 + 12x^2$ $6x^6 + 12x^2$

1

7 $3(x-1) \equiv 3x-3$ is an identity.

Tick **one** box.

[1 mark]

- [✓] It is true for **all** values of x
- [ ] It is true for **some** values of x
- [ ] It is true for **no** values of x