

Algebraic Expressions I

Exercise 1A, Q1 done verbally in class

$$z) \quad c) \quad -3y(4-3y) = -12y + 9y^2$$

$$f) \quad -5x(4x+1) = -20x^2 - 5x$$

$$i) \quad -2x(5x-4) = -10x^2 + 8x$$

$$e) \quad 5x - 6 - (3x - 2) \\ = 5x - 6 - 3x + 2 = 2x - 4$$

$$g) \quad -2y^2(5-7y+3y^2) = -10y^2 + 14y^3 - 6y^4$$

$$s) \quad 5x - 3(4-2x) + 6 \\ = 5x - 12 + 6x + 6 = 11x - 6$$

$$v) \quad 3x^2(2x+1) - 5x^2(3x-4) \\ = 6x^3 + 3x^2 - 15x^3 + 20x^2 \\ = -9x^3 + 23x^2$$

$$n) \quad (r^2 + 3t^2 + 9) - (2r^2 + 3t^2 - 4) \\ r^2 + 3t^2 + 9 - 2r^2 - 3t^2 + 4 \\ = -r^2 + 13$$

Q3 e)

$$\frac{2x^4 - 4x^2}{4x} = \frac{2x^2(x^2 - 2)}{4x}$$
$$= \frac{x(x^2 - 2)}{2}$$

f)

$$\frac{9x^5 - 5x^3}{3x} = \frac{x^3(9x^2 - 5)}{3x}$$
$$= \frac{x^2(9x^2 - 5)}{3}$$

Exercise 1B

Q2 Parto

$$3x(x - 2y)(2x + 3y + 5)$$
$$[3x^2 - 6xy](2x + 3y + 5)$$
$$= 6x^3 - 12x^2y + 9x^2y - 18xy^2 + 15x^2 - 30xy$$
$$= 6x^3 - 3x^2y - 18xy^2 + 15x^2 - 30xy$$

Part x $(2x - 3y)^3$

$$= (2x - 3y)(2x - 3y)(2x - 3y)$$

$$= [4x^2 - 6xy - 6xy + 9y^2](2x - 3y)$$

$$= [4x^2 - 12xy + 9y^2](2x - 3y)$$

$$= 8x^3 - 24x^2y + 18xy^2 - 12x^2y - 36xy^2 - 27y^3$$

$$= 8x^3 - 27y^3 - 54xy^2 - 36x^2y$$

Homework Exercise 1B

Q1 column 1

Q2 column 1

Q3

Q4

Q5
