NAME _ _ _ _ _ _ _ _

In all cases

[-5] for the first algebra error

[-1] for each subs. error in Q1

[-2] ..... in Q3.

ANSWERS.

Quiz 1

([5] in Q2)

Calculators are not allowed. Write your answers on the dashed lines.

Question 1: Remove brackets if needed (be careful of the signs), expand if needed, and simplify:

[10] • $-(x^2+2x+1)-(x+3)$ $= -x^2-2x-1-x-3 = -x^2-3x-4$

Answer: $-x^2-3x-4$

[10] • $4(x^3+3x^2-2)-2(x-x^3)-(3x+2x^2)$

$= 4x^3+12x^2-8-2x+2x^3-3x-2x^2$

$= 6x^3+10x^2-5x-8$

Answer: $6x^3+10x^2-5x-8$

Question 2: In the following expressions, group the first 2 terms together, in one bracket, and the following two terms together in a bracket, as in the example below

$$x^3+2x^2-3x-1=(x^3+2x^2)-(3x+1)$$

[10] • $-2x^3-2x^2-x+4 =$ $(-2x^3-2x^2)-(x-4) = -(2x^3+2x^2)-(x-4)$ (both ok)

[10] • $x^4-x^3-x^2-x =$ $(x^4-x^3)-(x^2+x)$

Question 3: Expand and order the following expressions, as in the example below:

$$(x-1)(2-x^2)(3x+1)=-3x^4+2x^3+7x^2-4x-2$$

[20] • $-(x+1)(x-2)$

$= -[x^2-2x+x-2] = -[x^2-x-2] = -x^2+x+2$

Answer: $-x^2+x+2$

TURN OVER →

[20] • $-2x(x-1)+(2-x)(x+1)(3-x)$

$= [-2x^2 + 2x] + [2x + 2 - x^2 - x](3-x)$

$= -2x^2 + 2x + (-x^2 + x + 2)(3-x)$

$= -2x^2 + 2x + [-3x^2 + x^3 + 3x - x^2 + 6 - 2x]$

$= -2x^2 + 2x - 3x^2 + x^3 + 3x - x^2 + 6 - 2x$

Answer: $x^3 - 6x^2 + 3x + 6$

[20] • $(x-1)[3-(x+2)(x-1)]$

$= (x-1)[3 - (x^2 - x + 2x - 2)]$

$= (x-1)[3 - x^2 + x - 2x + 2]$

$= (x-1)(-x^2 - x + 5) = -x^3 + x^2 - x^2 + x + 5x - 5$

$= -x^3 + 6x - 5$

Answer: $-x^3 + 6x - 5$