

Mathematics Department – Langholm Academy

HIGHER HOMEWORK

UNIT 1

CHAPTER 2.2

Algebraic Functions and Graphs

Homework 1

Higher - Unit 1
Completing The Square

1. Write the following in the form $a(x+p)^2 + q$

a. $x^2 + 6x$

b. $c^2 - 10c$

c. $b^2 + 3b$

d. $m^2 - m$

2. Write the following in the form $a(x+p)^2 + q$

a. $x^2 + 6x - 3$

b. $c^2 - 10c + 2$

c. $b^2 + 3b + 15$

d. $m^2 - m - 12$

3. Write the following in the form $a(x+p)^2 + q$ (**remember to factorise out -1 first**)

a. $6x - x^2$

b. $-10c - c^2$

c. $3b - b^2$

d. $-m - m^2$

4. Write the following in the form $a(x+p)^2 + q$ (**remember to factorise out -1 first**)

a. $4 - 6x - x^2$

b. $-3 + 10c - c^2$

c. $14 + 3b - b^2$

d. $-6 + m - m^2$

5. Write the following in the form $a(x+p)^2 + q$ (**remember to factorise out the number attached to the squared term first**)

a. $2x^2 + 6x - 3$

b. $5c^2 - 10c + 2$

c. $3b^2 + 3b + 15$

d. $4m^2 - 12m - 12$

e. $4 - 10c - 5c^2$

f. $11 + 12p - 6p^2$