

Name:

Date:



Algebra Assessed Homework

1. Solve each equation

(a) $2x - 3 = 3(7 - 2x)$

[2]

(b) $\frac{7x-1}{5} = \frac{3(5+2x)}{2}$

[3]

2. Solve the simultaneous equations:

[4]

$$x - 7y = -11$$

$$3x + 4y = -8$$

3. Solve the inequalities:

(a) $4(x - 5) > 2x - 9$

[2]

(b) $\frac{3x-1}{5} - \frac{x+1}{2} > 3$

[3]

4. (a) For the function $f(x) = 3x^2 - x - 2$, find the values of: [4]

i. $f(0)$

ii. $f(1)$

iii. $f(-1)$

iv. $f(-3)$

(b) Find and simplify an expression for $f(z + 1)$ [3]

5. Work out the answer, giving your solution in simplest form:

[6]

(a) $\frac{3}{8} + \frac{1}{6}$

(c) $\frac{3}{8} \times \frac{1}{2}$

(e) $\frac{3}{8} \times 2$

(b) $\frac{3}{8} - \frac{1}{2}$

(d) $\frac{3}{8} \div \frac{1}{2}$

(f) $\frac{3}{8} \div 2$

6. Expand and simplify:

(a) $(x - 3)(x + 4)$

[1]

(b) $(2 - x)(x + 8)$

[1]

(c) $(x - 6)^2$

[1]

7. Solve by factorising:

(a) $x^2 + 6x + 5 = 0$

[2]

(b) $2x^2 + 5x - 3 = 0$

[2]

(c) $6x^2 - x = 1$

[3]

8. Simplify as much as possible the fraction

[4]

$$\frac{2x^2 - 8}{4x^3 - 4x^2 - 24x}$$

Total marks: [41]