**1.** (a) Simplify 

(2)

(b) Express  in the form , where *n* is an integer.

(2)

(Total 4 marks)

**2.** (a) Simplify .

(2)

(b) Express  in the form , where *m* is an integer.

(1)

(c) Express  in the form *a + *, where *a* and *b* are integers.

(Hint: Rationalize the denominator)

(4)

(Total 7 marks)

**3.** (a) Express (4 – l) ( *+* 3) in the form *p + q**,* where *p* and *q* are integers.

(3)

(b) Show that  is an integer and find its value.

(3)

(Total 6 marks)

**4.** (a) Express  in the form , where *a* and *b* are integers.

(4)

(b) Solve the inequality

.

(3)

(Total 7 marks)

**5.** (a) Simplify the expression .

(1)

(b) It is given that

*k* = .

(i) Express *k* in the form *p* + *q*, where *p* and *q* are integers.

(3)

(ii) Express  in the form *r* + *s*, where *r* and *s* are integers.

(2)

(Total 6 marks)