Q1.

(a) Work out the value of $8^1 + 8^0$

.....

Answer .....

(2)

(b) Write $6^{10} \div 6^2$ as a single power of 6

.....

Answer .....

(1)

(c) Simplify fully $5x^3y^2 \times 3x^4y^3$

.....

.....

Answer .....

(2)

(Total 5 marks)

Q2.

(a) Expand and simplify $(2x + 1)(x - 3)$

.....

.....

Answer .....

(2)

(b) Factorise $y^2 + 2y - 24$

.....

.....

Answer .....

(2)

(c) Simplify $(2xy^3)^5$

.....

.....

Answer .....

(2)
(Total 6 marks)

Q3.(a) Show clearly that $(3\sqrt{3})^2 = 27$

.....

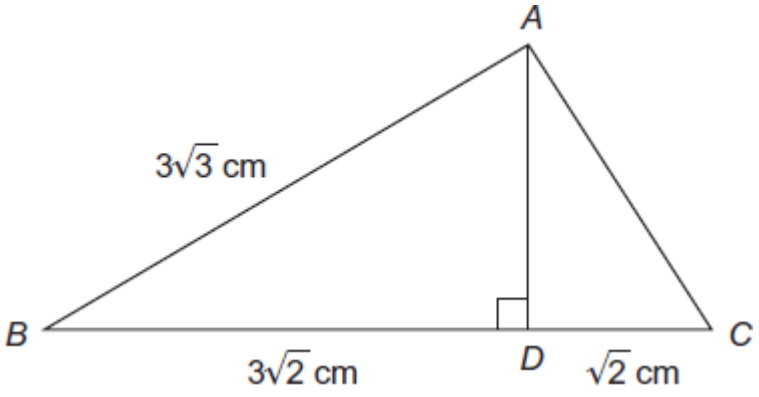
.....

(1)

(b) ABC is a triangle.
AD is perpendicular to BC.

$AB = 3\sqrt{3}$ cm, $BD = 3\sqrt{2}$ cm, $DC = \sqrt{2}$ cm

Not drawn accurately



Work out the area of triangle ABC.

Give your answer in the form $a\sqrt{2}$ where a is an integer.

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.....

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.....

.....

Answer ..... cm^2

(5)
(Total 6 marks)

Q4.

(a) $a^{11} \times b^6 \times c = a^9 \times b^{10}$

Write c in terms of a and b.
Give your answer in its simplest form.

c = ...

(3)

(b) $p^{-2} = q^6 \times r^4$

Write p in terms of q and r.
Give your answer in its simplest form.

p = ...

(2)
(Total 5 marks)

Q5.

Simplify $(2cd^4)^3$

.....

.....

Answer.....

(Total 2 marks)

Q6.(a) Simplify $y^4 \times y^7$

.....

Answer .....

(1)

(b) Simplify $w^{12} \div w^{4}$

.....

Answer .....

(1)

(c) Rearrange $y = 3x + 2$ to make x the subject.

.....

.....

.....

Answer .....

(2)

(Total 4 marks)