

## Delta 3 - Unit 1 Revision Questions

**Q1.**

- (a) Write  $\frac{3^5 \times 3^4}{3^2}$  as a power of 3

.....  
(2)

- (b) Write down the value of  $12^0$

.....  
(1)

- (c) Write down the value of  $3^{-2}$

.....  
(1)

**(Total for question = 4 marks)**

**Q2.**

- (a) Write down the reciprocal of 5

.....  
(1)

- (b) Evaluate  $3^{-2}$

.....  
(1)

- (c) Calculate  $9 \times 10^4 \times 3 \times 10^3$

Give your answer in standard form.

.....  
(2)

**(Total for Question is 4 marks)**

**Q3.**

Write down the value of  $125^{\frac{2}{3}}$

.....  
(Total for question is 1 mark)

**Q4.**

A metal box has a weight of  $8 \times 10^3$  grams.

Find, in standard form, the weight of 10 of these metal boxes.

..... grams

(Total for question = 1 mark)

**Q5.**

Find the value of  $64^{-\frac{2}{3}}$

.....  
(Total for question = 1 mark)

**Q6.**

(a) Write 640 000 000 in standard form.

.....  
(1)

(b) Work out  $(3 \times 10^7) \div (6 \times 10^4)$   
Give your answer in standard form.

.....  
(2)  
(Total for question = 3 marks)

**Q7.**

(a) Write  $7.8 \times 10^{-4}$  as an ordinary number.

.....  
(1)

(b) Write 95 600 000 as a number in standard form.

.....  
(1)

**(Total for Question is 2 marks)**

**Q8.**

(a) Write down the value of  $64^{\frac{1}{2}}$

.....  
(1)

(b) Find the value of  $\left(\frac{8}{125}\right)^{-\frac{2}{3}}$

.....  
(2)  
**(Total for question = 3 marks)**

**Q9.**

$\sqrt{5}(\sqrt{8} + \sqrt{18})$  can be written in the form  $a\sqrt{10}$  where  $a$  is an integer.

Find the value of  $a$ .

$a =$  .....  
**(Total for question = 3 marks)**

**Q10.**

Write  $(5 - \sqrt{5})^2$  in the form  $a + b\sqrt{5}$ , where  $a$  and  $b$  are integers.

.....  
(Total for Question is 2 marks)

**Q11.**

Rationalise the denominator of  $\frac{10}{\sqrt{5}}$   
Give your answer in its simplest form.

.....  
(Total for question = 2 marks)

**Q12.**

(a) Express  $5\sqrt{27}$  in the form  $n\sqrt{3}$ , where  $n$  is a positive integer.

.....  
(2)

(b) Rationalise the denominator of  $\frac{21}{\sqrt{3}}$

.....  
(2)

(Total for Question is 4 marks)

Q13.

(a) Express  $\sqrt{3} + \sqrt{12}$  in the form  $a\sqrt{3}$  where  $a$  is an integer.

.....

(2)

(b) Express  $\left(\frac{1}{\sqrt{3}}\right)^7$  in the form  $\frac{\sqrt{b}}{c}$  where  $b$  and  $c$  are integers.

.....

(3)

(Total for question = 5 marks)

Q14.

Here is a trapezium.

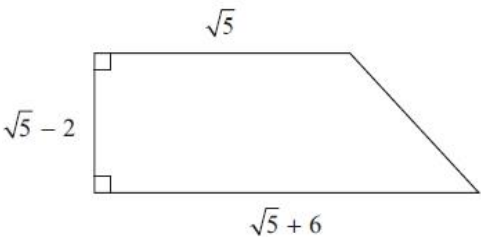


Diagram NOT  
accurately drawn

All measurements shown are in centimetres.

Work out the area of the trapezium.  
Give your answer in  $\text{cm}^2$  in the form  $a\sqrt{5} + b$  where  $a$  and  $b$  are integers.

..... $\text{cm}^2$

(Total for question = 3 marks)