

N6

Number exam review

1 This formula is used in science.

$$v = \sqrt{2gh}$$

- a Hanif uses the formula to work out an estimate for the value of v without using a calculator when $g = 9.812$ and $h = 0.819$

Write down approximate values for g and h that Hanif could use.

approximate value for g

approximate value for h

(2)

- b Make h the subject of the formula $v = \sqrt{2gh}$

$$h = \dots\dots\dots$$

(2)

(Total 4 marks)

2 The length of a side of a square is 6.81 cm, correct to 3 significant figures.

- a Work out the lower bound for the perimeter of the square.

..... cm

(2)

- b Give the perimeter of the square to an appropriate degree of accuracy.

You must show working to explain how you obtained your answer.

..... cm

(2)

(Total 4 marks)

3 a Work out $\frac{8}{9} \div \frac{2}{3}$

Give your answer as a mixed number.

.....
(2)

b Work out $4\frac{1}{2} - 1\frac{3}{5}$

Give your answer as a mixed number.

.....
(3)

(Total 5 marks)

4 Work out the value of $\sqrt{\frac{83.5 \times 978}{1025 + 222}}$

Give your answer correct to 3 significant figures.

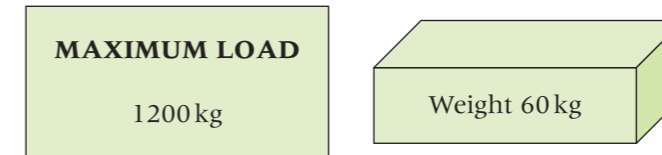
.....
(Total 3 marks)

5 Correct to 2 significant figures, the area of a rectangle is 470 cm².
Correct to 2 significant figures, the length of the rectangle is 23 cm.

Calculate the upper bound for the width of the rectangle.

..... cm
(Total 3 marks)

6



Peter transports metal bars in his van.

The van has a safety notice "Maximum Load 1200 kg".

Each metal bar has a label "Weight 60 kg".

For safety reasons Peter assumes that

1200 is rounded correct to 2 significant figures

and 60 is rounded correct to 1 significant figure.

Calculate the greatest number of bars that Peter can **safely** put into the van if his assumptions are correct.

.....
(Total 4 marks)

7 Use your calculator to work out the value of

$$\frac{(7.91 - \sqrt[3]{81}) \times 4.32}{6.23 + 1.491}$$

Give your answer correct to 3 significant figures.

.....
(Total 3 marks)

8 $f = \frac{uv}{u+v}$

Work out the value of f when $u = 5.7$ and $v = -7.6$

$f = \dots\dots\dots$

(Total 3 marks)

9

Symbols
+ - × ÷ ()

Using only symbols from the box, make the following into true statements.

a $2 \ 3 \ 4 = 14$

(1)

b $2 \ 3 \ 4 = 1.25$

(1)

c $2 \ 3 \ 4 = 2\frac{2}{3}$

(1)

(Total 3 marks)