1.6 Homework

Any solution based entirely on graphical
or numerical methods is not acceptable
Marks Available : 24

Do NOT use a calculator

Question 1

Use the fact that $405 = 3^4 \times 5$ to write $\sqrt{405}$ in the form $a\sqrt{p}$

where a and p are integers

and p is $\square$ FREE. (And also, in this case, prime)

[2 marks]

Question 2

Write each of the following in the form $a\sqrt{p}$

where a & p are integers

and p is $\square$FREE. (And also, in these cases, prime)

(i) $\sqrt{44}$ **(ii)** $\sqrt{50}$

(iii) $\sqrt{32}$ **(iv)** $\sqrt{99}$

(v) $\sqrt{200}$ **(vi)** $\sqrt{162}$
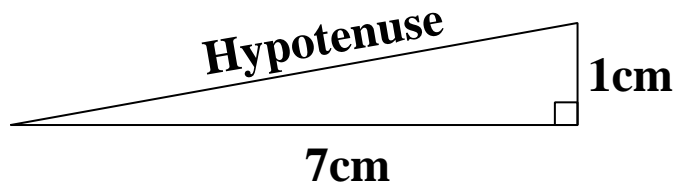
[6 marks]

Question 3

Find the *exact* length of the hypotenuse of a right-angled $\triangle$ of base 7 cm and height 1 cm.

Write your answer in the form $a \sqrt{p}$
       where a and p are integers
       and p is ☐FREE. (and also, in this case, prime)

Hypotenuse

1cm

7cm

[**3 marks**]

Question 4

Find the *exact* length of the hypotenuse of a right angled $\triangle$ of base 6 cm and height 2 cm.
Write your answer in the form $a \sqrt{f}$
       where a and f are integers
       and f is ☐ FREE. (Note: f is not prime)

[**3 marks**]

Question 5

Find the *exact* length of the hypotenuse of a right-angled △ of base 10 cm and height 4 cm.

Write your answer in the form $a \sqrt{p}$

       where   *a* and *p* are integers

       and   *p* is □ FREE. (In this case, *p* is prime)

[3 marks]

Question 6

Find the *exact* length of the hypotenuse of a right-angled △ of base 13 cm and height 9 cm.

Write your answer in the form $a \sqrt{f}$

       where   *a* and *f* are integers

       and   *f* is □ FREE. (Note: *f* is not prime)

[3 marks]

Question 7

Find the *exact* length of the hypotenuse of a right-angled $\triangle$ of base 15 cm and height 9 cm.

Write your answer in the form $a \sqrt{f}$

where a and f are integers

and f is $\square$ FREE. (Note: f is not prime)

[4 marks]

DECLARATION:

I, _____, being of sound body and brain,
do declare that I have not used a calculator in answering any of these questions.

Nor did I look to the left nor the right, at my neighbours answers.
(which would have been wrong anyway)

Furthermore, I love maths.

Signed: _____