

MATHEMATICS: PATHWAY 3: SEMESTER REVIEW TEST: REVISION

CALCULATOR FREE

Question 1

a) Round to two decimal places.

$$18.692 = \underline{\hspace{2cm}}$$

$$356.787 = \underline{\hspace{2cm}}$$

b) Round 6576 to two significant figures.

c) A manufacturer produces an item for \$350 and sell it for \$570. Determine the profit made.

d) A t-shirt advertised for \$35 is discounted by 10%. Calculate the dollar value of the discount.

e) Write $\frac{13}{20}$ as a percentage.

Question 2

a) State the number of terms in the expression, $6p + 2g^3$

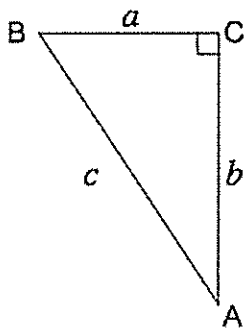
b) State the coefficient of $7cd$.

c) Simplify the following:

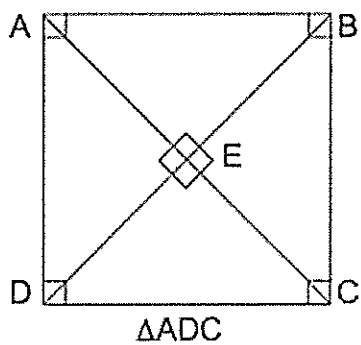
$$5k + 3 - 4k$$

Question 3

a) Name the hypotenuse in this right-angled triangle.

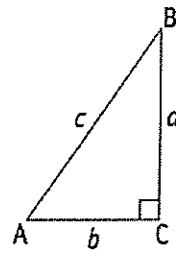


b) Name the hypotenuse in right-angled triangle ADC.



Question 4

Complete the following statements related to the diagram on the right:

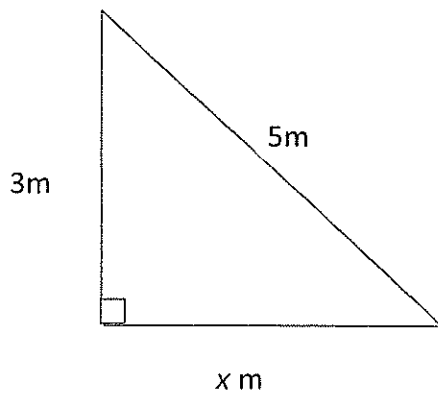


- i) _____ is the length of the hypotenuse.
- ii) _____ the length of the side opposite angle A.
- iii) _____ the length of the side opposite angle B.

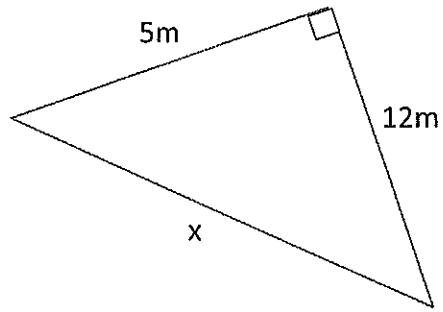
Question 5

Determine the value of x in each of the following

a.



b.



Question 6

a) $3x - 11 = 19$

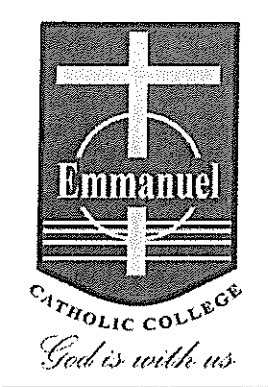
b) $\frac{x}{4} - 2 = 6$

Question 7

Expand the expression below:

$$2(x + 3)$$

If $2(x + 3) = -12$ use your answer in (a) to solve for x



CALCULATOR ALLOWED

Question 8

Barbara borrows \$24 000 to set up a business. She repaid the money over 5 years, paying 18 % per annum in simple interest.

a) How much interest did she pay over the 5 years?

\$6,666

b) What was the total amount of money repaid?

\$24,000

Question 9

a) Write an equation to represent the following :

A number n is doubled and increased by 4 to give 22.

$$N2+4=22$$

b) Solve for the value of n

$$N=9$$

Question 10

Substitute the given values into the formula then solve the equation to determine the value of V . Round to two decimal places.

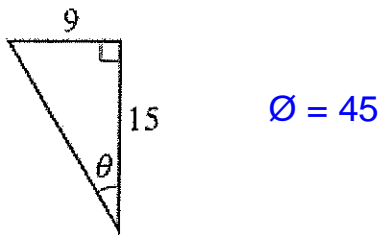
$$V = \frac{4}{3} \pi r^3, \text{ when } \pi = 3.14 \text{ and } r = 2.$$

$$V = \frac{4}{3} \times 3.14 \times 2^3$$

$$2$$

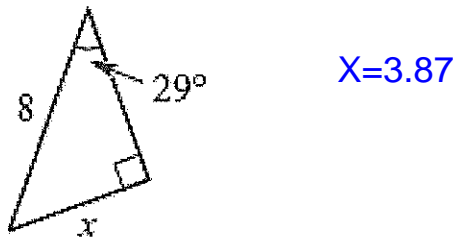
Question 11

Determine the value of θ to the nearest degree.



Question 12

Calculate the value of x correct to two decimal places.



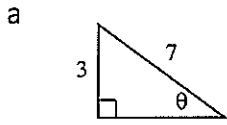
Question 13

a) In each of the following, find the value of x correct to two decimal places.

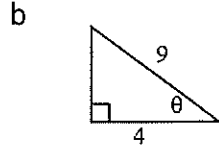
a $\cos 70^\circ = \frac{x}{3}$ $3/4$

b $\frac{4}{x} = \tan 28^\circ$

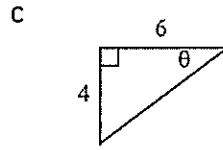
(b) Complete the correct statement for each right-angled triangle.



$\sin \vartheta = \underline{45}$



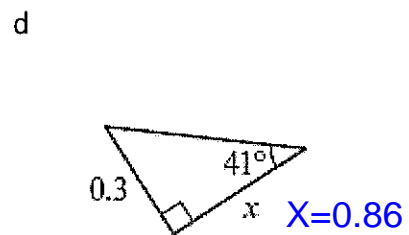
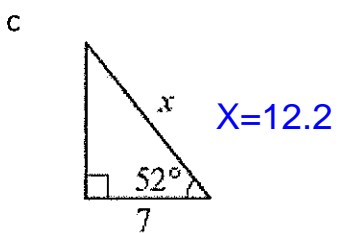
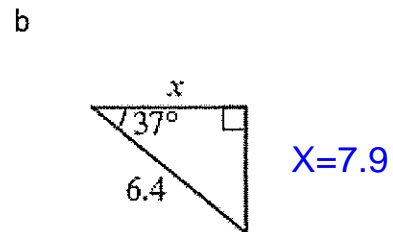
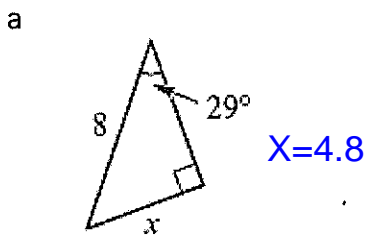
$\cos \vartheta = \underline{45}$



$\tan \vartheta = \underline{45}$

Question 14

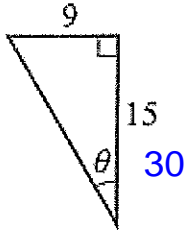
For each of the following, find the value of x correct to two decimal places.



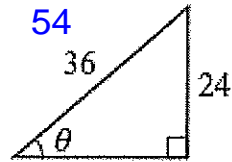
Question 15

Find the value of θ to the nearest degree.

a



b



(c) Find α , correct to 1 decimal place.

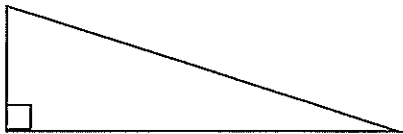
$$\sin \alpha = \frac{3}{7} \quad \underline{0.007}$$

$$\cos \alpha = \frac{19.6}{27} \quad \underline{0.99}$$

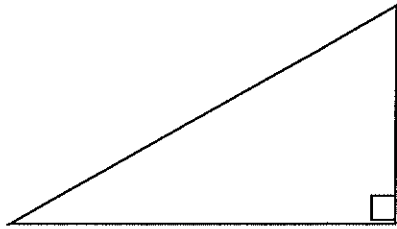
$$\tan \alpha = \frac{4}{7} \quad \underline{0.009}$$

Question 16

(a) A farmer wishes to fence his right triangular paddock. He knows that the longest side is 52m and that one of the other sides is 42m. Find the length of the third side and the total length of fencing required to enclose the paddock.



A man is 12m from the base of a tree that is 6.5m tall. At what angle does the man need to look up to see the top of the tree?



120

A man has designed a new sail for his boat in the shape of a right triangle. He knows that the longest side is 13.5m and the base angle is 35° . Find the length of the other

