ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION

CLASS 8

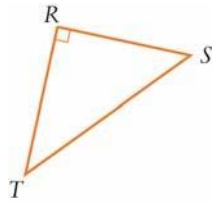
SUBJECT :Algebra and Geometry **Work sheet 12 Answer key**

Marks:15 **PYTHAGORAS THEOREM**

Date:22.2.2021

Answer all the following questions(1×15=15)

1 Which side of this triangle is the hypotenuse?



A *RS* **B** *TR*

C *ST* **D** *RT*

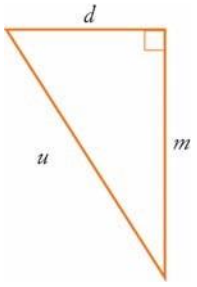
Solution: D

2 . Which is the correct Pythagoras' theorem for this triangle?

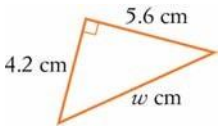
A $d^2 = m^2 - u^2$ **B** $d^2 = m^2 + u^2$

C $m^2 = d^2 + u^2$ **D** $u^2 = m^2 + d^2$

Solution: D



3 Find w.



A 3.70 **B** 9.8

C 7 **D** 1.4

Solution: C, $w^2 = 4.2^2 + 5.6^2$, 7

4 Pythagoras was a mathematician from which ancient civilisation?

A Rome **B** Babylonia

C Greece **D** Egypt

Solution: C

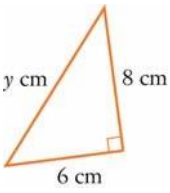
5 If $r^2 = 10^2 + 4^2$, what is the value of r?

A 196 **B** 10.77

C 9.17 **D** 116

Solution: B,√116

6. Find y

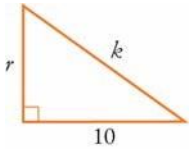


A 24 **B**10

C 17 **D** 6

Solution: B, √100

7.Which is the correct Pythagoras' theorem for this triangle?

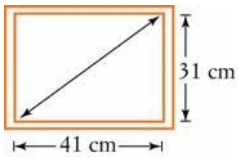


A $r^2 = 10^2 + k^2$ **B** $10^2 = r^2 - k^2$

C $r^2 = k^2 - 10^2$ **D** $k^2 = r^2 - 10^2$

Solution:C

8.A TV screen is 41 cm long and 31 cm high. The length of its diagonal is closest to:



A 49 cm **B** 51 cm

C 54 cm **D** 48 cm

Solution: B, $\sqrt{(31^2 + 41^2)}=\sqrt{2642}=$ 51.40003891

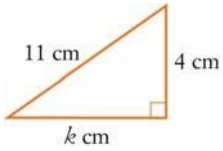
9.Which one of these is a Pythagorean triad?

A (8, 15, 17) **B** (6, 10, 16)

C (18, 21, 25) **D** (7, 12, 13)

Solution: A, 64+225=289

10. Find k.

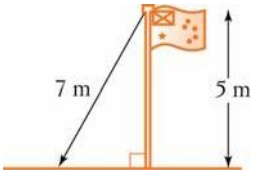


A 2.65 **B** 8

C 10.25 **D** 11.70

Solution: C, $\sqrt{(121-16)} =\sqrt{105}$

11. flagpole of height 5 metres is tied to the ground by a 7 metre cable. How far from the base of the flagpole is the cable tied?

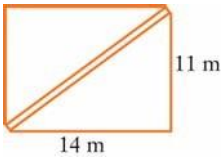


A 8.60 m **B** 4 m

C 1.41 m **D** 4.90 m

Solution: D, $\sqrt{24}=4.898$

12. Find the length of the path through the park.

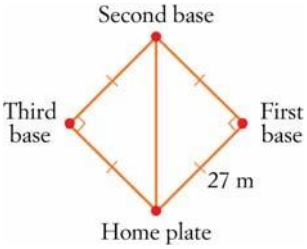


B 77 m **B** 17.80 m

C 12.41 m **D** 25 m

Solution: B, $\sqrt{317}$

13. A baseball field is a square with a side length of 27 metres. What is the distance between the home plate and second base?

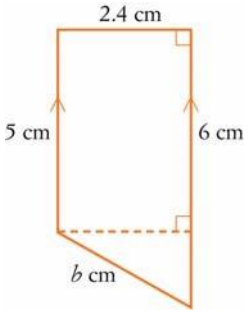


A 7.35 m **B** 52 m

C 40.50 m **D** 38.18 m

Solution:D, $\sqrt{(27^2+27^2)} =\sqrt{1458}$

14. Find *b*.

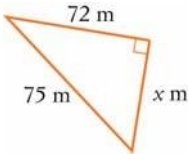


C 8.17 **B** 3.32

C 2.60 **D** 2.18

Solution: C, $b^2 = 2.4^2 + (6-5)^2$,
$b = \sqrt{6.76}$

15. Find x.



A 21 **B** 3
C 15 **D** 18

Solution: A, $75^2 - 72^2 = 441$