TB(2B) Ch. 10 Pyth. Thm & Irrational Numbers

Pythagoras' Theorem

Multiple Choice Questions

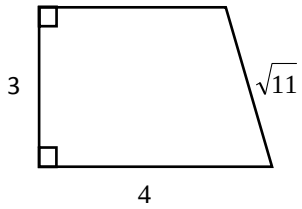
1. [13-14 S.2 S.Test 2 #5]

In the figure, *ABCD* and *CEFG* are squares. *DCE* and *BCG* are straight lines. If *DG* is 17 cm, find the sum of the areas of squares *ABCD* and *CEFG*.

A. 64 cm^2
B. 161 cm^2
C. 225 cm^2
D. 289 cm^2

2. [13-14 S.2 S.Test 2 #10]

Find the area of the following trapezium.



A. $\frac{7\sqrt{11}}{2}$

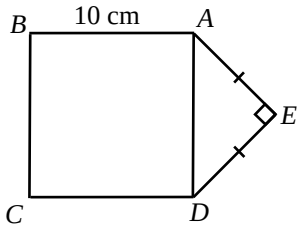
B. $6+2\sqrt{11}$

C. $12+3\sqrt{11}$

D. $12-\frac{3\sqrt{2}}{2}$

3. [13-14 Final Exam #11]

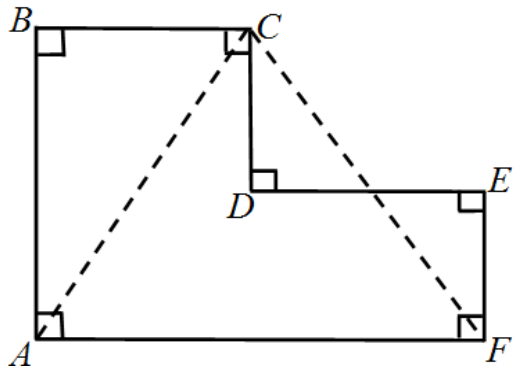
In the figure, *ABCD* is a square. What is the area of the pentagon *ABCDE*?



A. 75 cm^2 **B.** 100 cm^2
C. 125 cm^2 **D.** 150 cm^2

4. [14-15 S.2 S.Test #5]

In the figure, AB = 12 cm, BC = 5 cm, CD = 4 cm and DE = 5 cm. Find the perimeter of ΔACF .

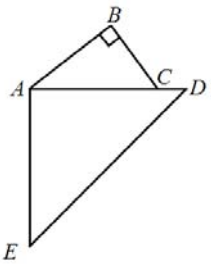


A. $28+2\sqrt{7}$ cm **B.** 36 cm

C. $28+\sqrt{85}$ cm **D.** 60 cm

5. [14-15 S.2 S.Test #8]

In the figure, $\Delta ABC \sim \Delta EAD$ and ACD is a straight line. AB = 4 cm, BC = 3 cm and CD = 1 cm. Find DE.



A. $\sqrt{41}$ cm

B. 9 cm

C. $\sqrt{89}$ cm

D. 10 cm

6. [14-15 S.6 S.Test #5]

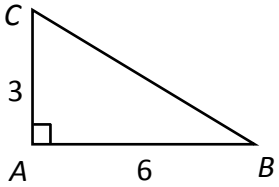
The polar coordinates of the points A and B are $(r, 60°)$ and $(2r, 150°)$ respectively. If the distance AB is 25, find r.

A. $3\sqrt{2}$ **B.** $4\sqrt{3}$

C. $5\sqrt{5}$ **D.** $6\sqrt{7}$

7. [14-15 Final Exam #7]

In the figure, find BC.



A. $3\sqrt{5}$

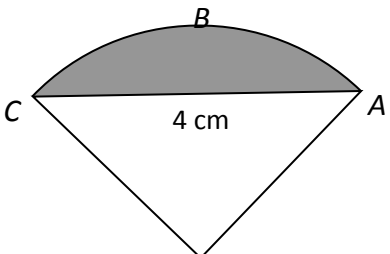
B. $6\sqrt{5}$

C. 9

D. 45

8. [15-16 Final Exam #3]

In the figure, $OABC$ is a sector with $\angle COA = 90°$ and CA = 4 cm. Find the area of the shaded region.

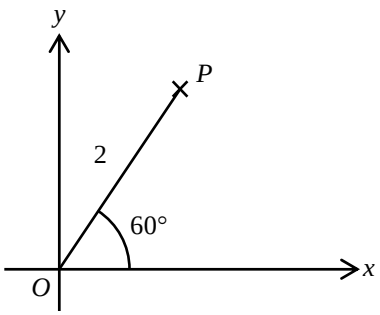


◇

A. $2(\pi-2)\text{cm}^2$
B. $4(\pi-1)\text{cm}^2$
C. $8(\pi-2)\text{cm}^2$
D. $8(\pi-1)\text{cm}^2$

9. [15-16 Final Exam #18]

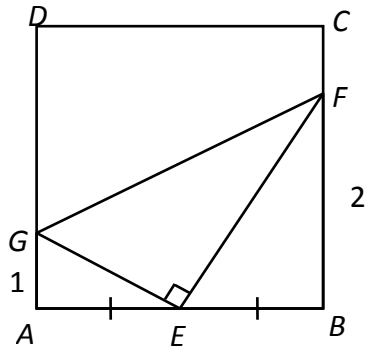
If the polar coordinates of a point P are (2, 60°), then the rectangular coordinates of P are



A. (1, $\sqrt{3}$).
B. (1, 2).
C. ($\sqrt{3}$, 1).
D. (2, $\sqrt{3}$).

10. [15-16 Final Exam #19]

In the figure, $ABCD$ is a square. E is the mid-point of AB, G and F lies on AD and BC respectively. If $AG = 1$, $BF = 2$ and $\angle GEF = 90°$, then $GF =$



A. $\sqrt{3}$.
B. $\sqrt{7}$.
C. 3.
D. 4.

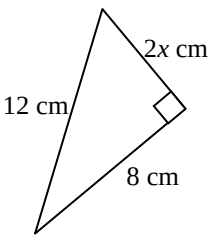
11. [15-16 Final Exam #20]

In a right-angled triangle ABC, the hypotenuse $AC = 13$ cm. What is the largest possible area of ΔABC?

A. 13 cm^2
B. 30 cm^2
C. 42.25 cm^2
D. 84.5 cm^2

12. [15-16 S.Test #3]

In the figure, find the value of x, correct to 3 significant figures.



A. 4.47

B. 6.32
C. 8.94
D. 11.5

13. [15-16 S.Test #8]

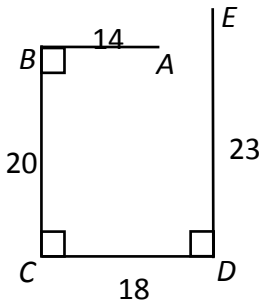
In ΔABC, $AC^2 = AB^2 + BC^2$. It is given that $AC = \sqrt{2}AB$. Which of the following is not true?

A. AC is the longest side of ΔABC.
B. ΔABC is a right-angled triangle.
C. ΔABC is an isosceles triangle.
D. $BC = \sqrt{2}AC$.

14. [16-17 Final Exam #7]

In the figure, the length of the line segment joining A and E is

A. 3.
B. 4.
C. 5.
D. 6.



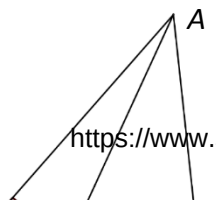
15. [17-18 F.2 S. Test 2 #5]

Peter wants to connect to the tip of a vertical pole to his position by a string. It is given that the height of the pole is 2 m and the distance between him and the foot of the pole is 5 m. Find the shortest length of the string.

A. 7 m
B. $\sqrt{29}$ m
C. $\sqrt{21}$ m
D. 3 m

16. [17-18 F.2 S. Test 2 #7]

In the figure, ΔABC and ΔABD are two right-angled triangles. It is given that $AB = 7$ cm, $BC = 2$ cm and $AD = 6$ cm. Find the area of the quadrilateral $ACBD$ correct to 3 significant



figures.

A. 21.3 cm^2
B. 17.5 cm^2
C. 8.87 cm^2
D. 5.56 cm^2

17. [17-18 F.2 S. Test 2 #9]

The length of 4 rods are 123 cm, 45 cm, 36 cm and 27 cm. The area of the largest right-angled triangle formed by any three of the rods is

A. 2767.5 cm^2.
B. 2214 cm^2.
C. 1660.2 cm^2.
D. 486 cm^2.

~ End ~