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

Pythagoras' Theorem

Multiple Choice Questions

1. [11-12 F.2 S. Test 2]

Which of the following sets of numbers form the sides of a right-angled triangle?

I. $\sqrt{2}$, $\sqrt{2}$, 4

II. 8, 15, 17

III. 7, 25, 24

A. II only

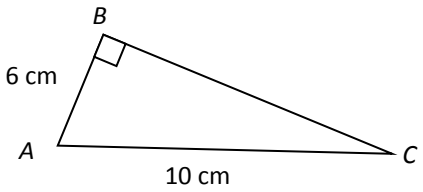
B. I and II only

C. II and III only

D. I, II and III

2. [11-12 F.2 S. Test 2]

In the figure, $AB \perp BC$. Find the area of ΔABC.



A. $6\sqrt{34}$ cm^2

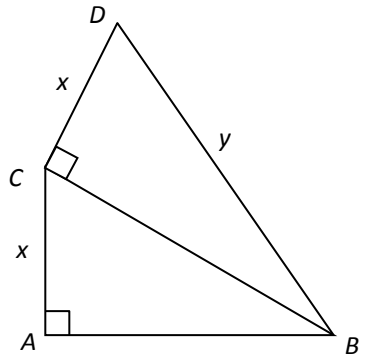
B. 24 cm^2

C. 30 cm^2

D. 48 cm^2

3. [11-12 F2 S. Test 2]

In the figure, find AB in terms of x and y.



A. $AB = y$

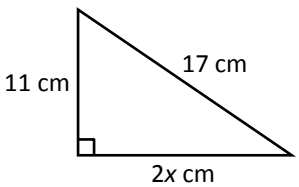
B. $AB = x^2 + y^2$

C. $AB = \sqrt{y^2 + 2x^2}$

D. $AB = \sqrt{y^2 - 2x^2}$

4. [12-13 F.2 S. Test 2]

In the figure, find the value of x.



A. $\sqrt{21}$

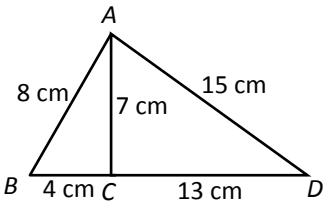
B. $\sqrt{42}$

C. $\sqrt{84}$

D. $\sqrt{168}$

5. [12-13 F.2 S. Test 2]

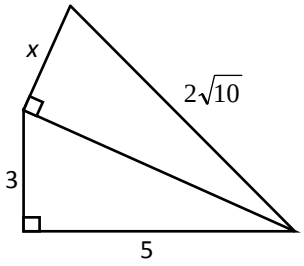
In the figure, *BCD* is a straight line. Find the area of ΔABD.



A. 59.5 cm^2
B. 60 cm^2
C. 119 cm^2
D. 120 cm^2

6. [12-13 S.2 Final Exam #8]

Find the value of x in the figure.



A. $\sqrt{6}$
B. $3\sqrt{6}$
C. $\sqrt{74}$
D. $\sqrt{366}$

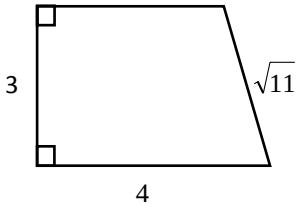
7. [13-14 S.2 S.Test 2 #5]

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

8. [13-14 S.2 S.Test 2 #10]

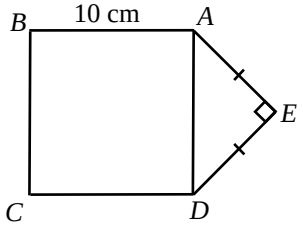
Find the area of the following trapezium.



A. $\frac{7\sqrt{11}}{2}$
B. $6+2\sqrt{11}$
C. $12+3\sqrt{11}$
D. $12-\frac{3\sqrt{2}}{2}$

9. [13-14 Final Exam #11]

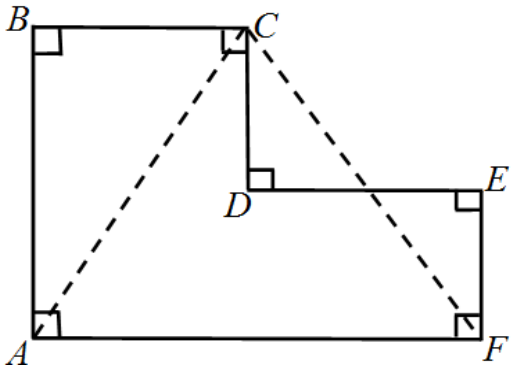
In the figure, *ABCD* is a square. What is the area of the pentagon *ABCDE*?



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

10. [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 .

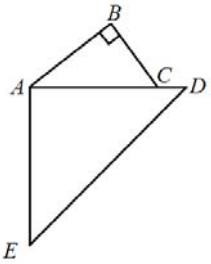


A. $28+2\sqrt{7}$ cm **B.** 36 cm
C. $28+\sqrt{85}$ cm **D.** 60 cm

11. [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



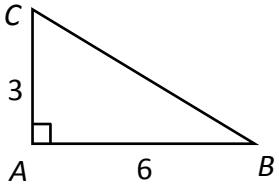
12. [14-15 S.6 S.Test #5]

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.** $6\sqrt{7}$

13. [14-15 Final Exam #7]

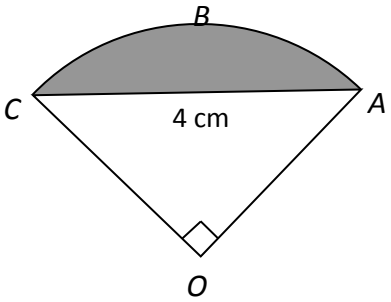
In the figure, find *BC*.



A. $3\sqrt{5}$
B. $6\sqrt{5}$
C. 9
D. 45

14. [15-16 Final Exam #3]

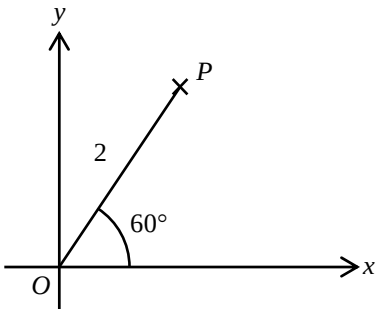
In the figure, *OABC* is a sector with $\angle COA = 90°$ and *CA* = 4 cm. Find the area of the shaded region.



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

15. [15-16 Final Exam #18]

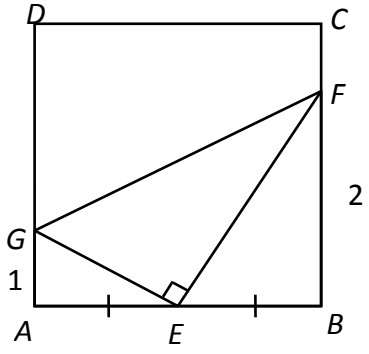
If the polar coordinates of a point *P* are (2, 60°), then the rectangular coordinates of *P* are



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

16. [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.

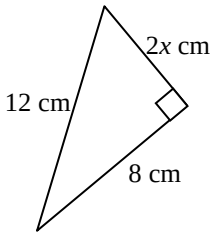
17. [15-16 Final Exam #20]

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

A. $13\ \text{cm}^2$
B. $30\ \text{cm}^2$
C. $42.25\ \text{cm}^2$
D. $84.5\ \text{cm}^2$

18. [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

19. [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. $BC = \sqrt{2}AC$.

~ End ~