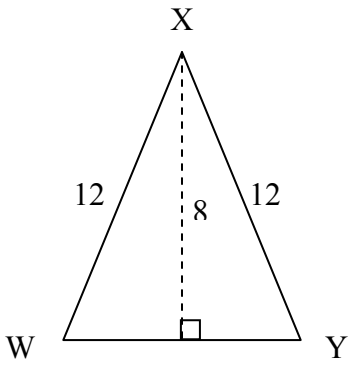
Math 0090 Lab Worksheet #11

Objective: Solve problems #1 - #10 involving right triangles. Problems #11 through #15 are review problems.

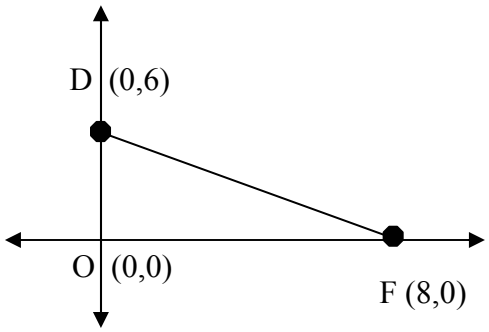
1. Use the diagram below to answer the question that follows.



Which of the following expressions describes the area of ΔWXY?

A. $(8)\sqrt{12^2 - 8^2}$
B. $(2)(8)(12)$
C. $\dfrac{(8)(12)}{2}$
D. $2(8)\sqrt{12^2 - 8^2}$

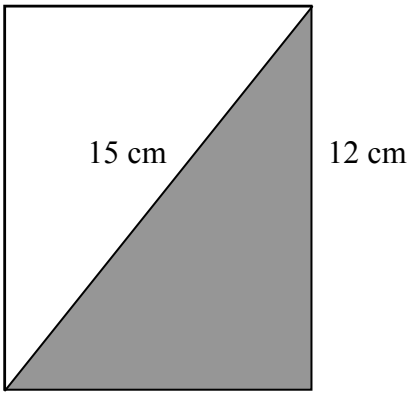
2. Use the diagram below to answer the question that follows.



What is the perimeter of ΔODF?

A. 12
B. 14
C. 24
D. 48

3. Use the diagram below to answer the question that follows.



In the rectangle above, what is the area of the shaded region?

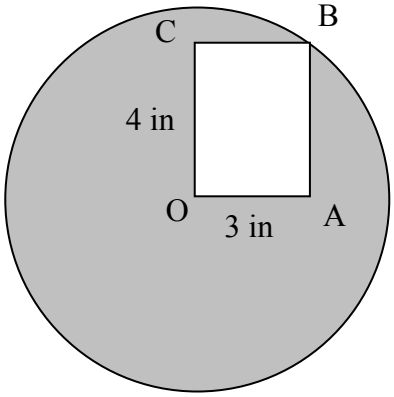
A. 54 cm^2

B. 90 cm^2

C. 108 cm^2

D. 180 cm^2

4. Use the diagram below to answer the question that follows.



Rectangle OABC is inside the circle with center at O. What is the area of the shaded region?

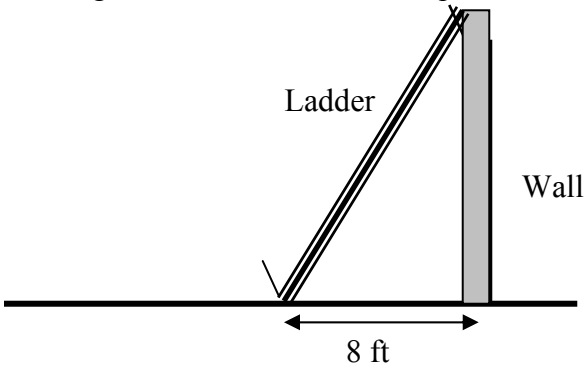
A. $(12 - 5\pi)$ in^2

B. $(12\pi - 12)$ in^2

C. $(25\pi - 12)$ in^2

D. 25π in^2

5. Use the diagram below to answer the question that follows.



A 17-ft ladder leans against a wall. If the ladder is 8 ft from the base of the wall, how far is it from the bottom of the wall to the top of the ladder?

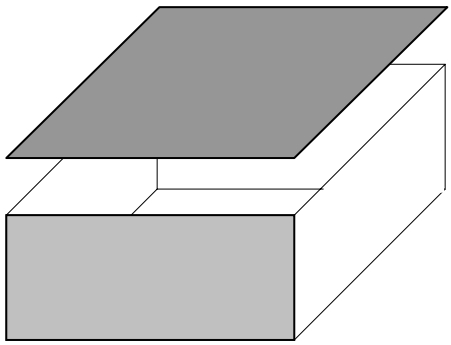
A. 5 ft

B. 9 ft

C. 15 ft

D. $2\sqrt{34}$ ft

6. Use the diagram below to answer the question that follows.



A rectangular box has dimensions 7.2 cm x 9.6 cm x 5.0 cm. What is the length of the longest object that can be placed in the box?

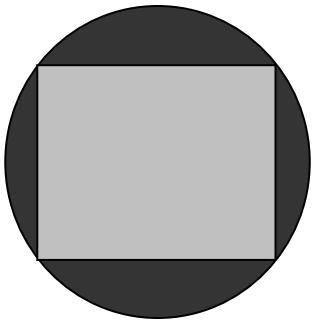
A. 10.0 cm

B. 10.8 cm

C. 12.3 cm

D. 13.0 cm

7. Use the diagram below to answer the question that follows.



A square screen of wire mesh with an area of 100 cm^2 covers a circular vent. Which of the following expressions describes the area not covered by the screen?

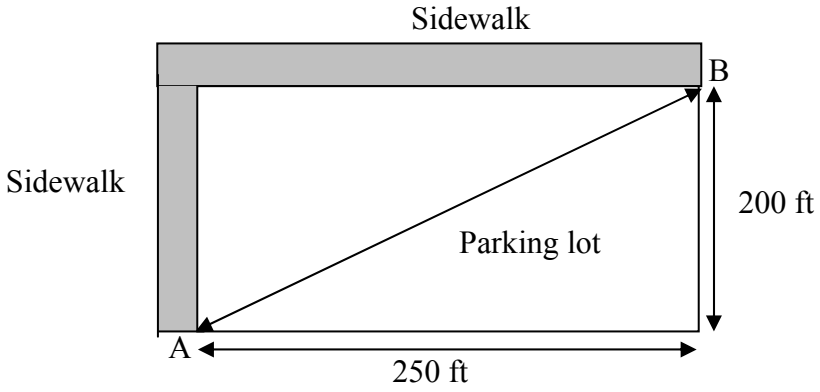
A. $(\sqrt{200}\pi - 100)\ cm^2$

B. $(200\pi - 100)\ cm^2$

C. $(100\pi - 100)\ cm^2$

D. $(50\pi - 100)\ cm^2$

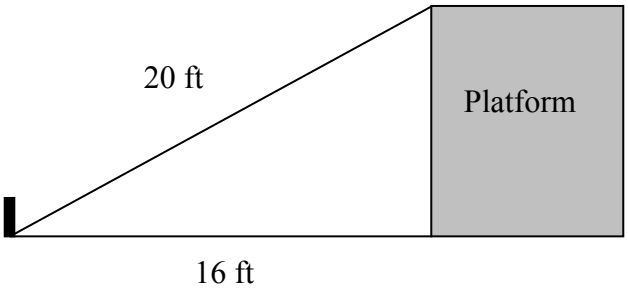
8. Use the diagram below to answer the question that follows.



A rectangular parking lot is 200-ft by 250-ft. Veronica walks diagonally across the lot from A to B. Find approximately how much less distance Veronica covered by walking diagonally than by walking along the sidewalk.

A. 130 ft
B. 150 ft
C. 175 ft
D. 320 ft

9. Use the diagram below to answer the question that follows.



A guy wire 20 ft long is tied from the top of a platform to a wooden peg on the ground 16 ft away from the base of the platform. How high is the platform from the ground?

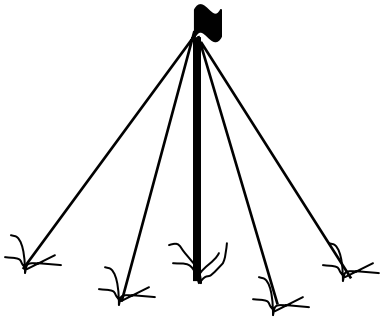
A. 10 ft

B. 12 ft

C. 13 ft

D. 25.6 ft

10. Use the diagram below to answer the question that follows.



A totem pole 86 ft tall is to be erected on a playground. 6 feet of the pole would be buried in concrete under the ground. Four support cable wires will be used to secure the top of the pole and tied to concrete pegs 60 ft from the base of the pole. Approximate the total length of cable wire needed.

A. 100 ft

B. 104.86 ft

C. 404 ft

D. 4900 .5 ft

11. The base of an isosceles triangle is three feet longer than the equal sides. The perimeter of the triangle is 18 feet. Find the area of the triangle.

A. 12 ft^2

B. 16 ft^2

C. 18 ft^2

D. 50 ft^2

12. Solve for y. $5x + 2y = 20$

$3x + y = 11$

A. -5

B. 2

C. 5

D. 9

13. Divide: $\dfrac{x+2}{x^2-16} \div \dfrac{x^2+x-2}{x^2+3x-4}$

A. $\dfrac{1}{x-8}$

B. $\dfrac{5}{x-8}$

C. $\dfrac{1}{x-4}$

D. $x-4$

14. The square of a number is nine less than six times the number. Find all such numbers.

A. -3, 3

B. 3

C. 4

D. 7

15. Find one of the factors of the $64x^2 - 48x + 9$.

A. $16x - 3$

B. $8x - 3$

C. $4x + 3$

D. $8x + 3$