In Exercises 1-10, find each missing length. All measurements are in centimeters. Use the symbol ≈ for approximate answers and round to the nearest tenth of a centimeter.

1)

15
12
c

2)

13
5
a

3)

b
6
8

4)

8
d
6

5)

s
s
10
24

6)

6
c

7)

8
7
25
b

8)

3.9
x
1.5
1.5

9)

41
x
9

10)

5
s

11)

y
$(5, 12)$
r
$(0, 0)$
x
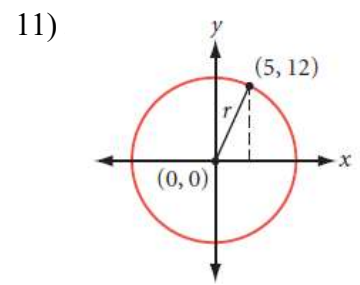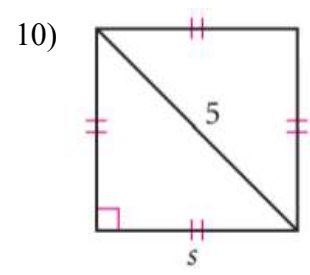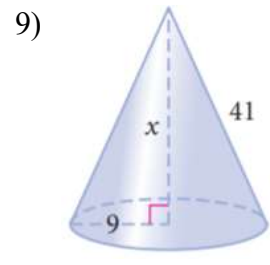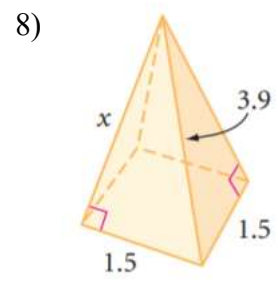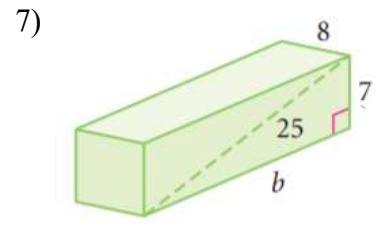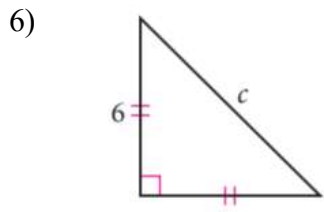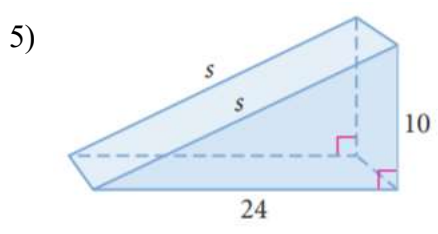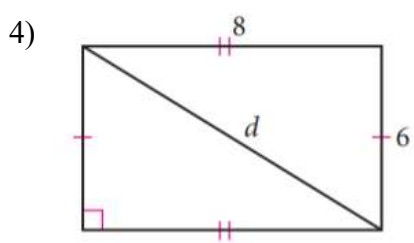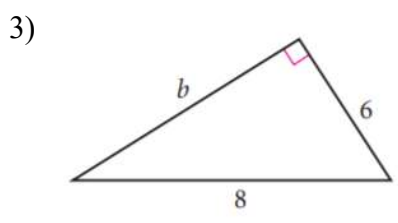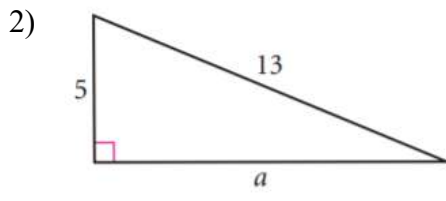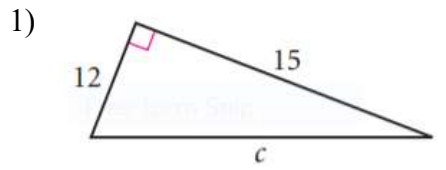
12) What is the length of the diagonal of a square whose area is 64 cm^2?

13) A baseball infield is a square, each side measuring 90 feet. To the nearest foot, what is the distance from home plate to second base?
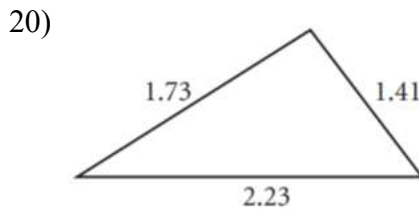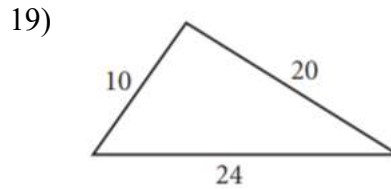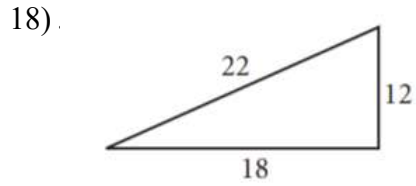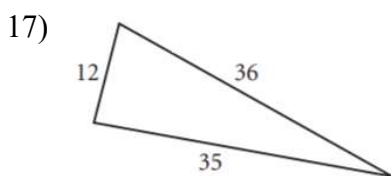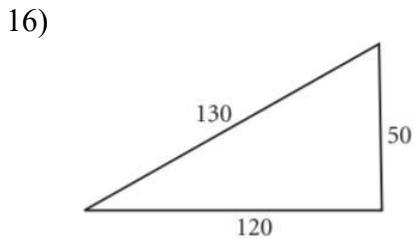
Second base

Home plate
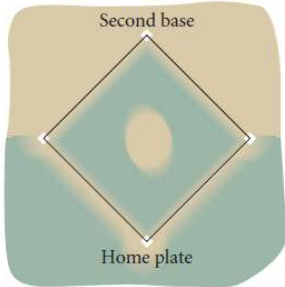
14) A rectangular garden 6 meters wide has a diagonal measuring 10 meters. Find the perimeter of the garden.

In Exercises 15-20, use the Converse of the Pythagorean Theorem to determine whether each triangle is a right triangle.

15)

17
8
15

16)

130
50
120

17)

12
36
35

18)

22
12
18

19)

10
20
24

20)

1.73
1.41
2.23
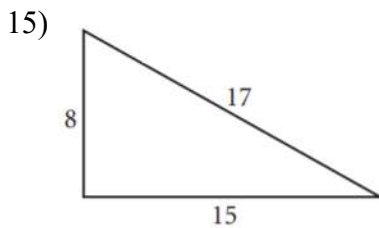
21) Is a triangle with sides measuring 9 feet, 12 feet, and 18 feet a right triangle?

22) A window frame that seems rectangular has height 408 cm, length 306 cm, and one diagonal with length 525 cm. Is the window frame really rectangular? Explain.

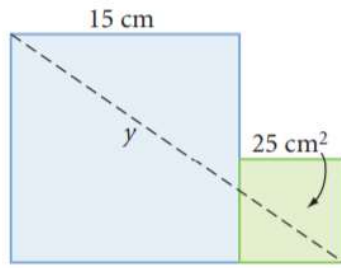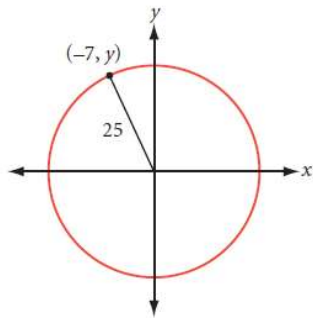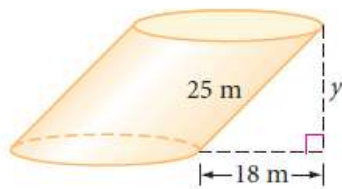23) Both quadrilaterals are squares.

$y =$_____

15 cm

y

25 cm²

24) $y =$_____

$(-7, y)$

25

25) $y =$_____

25 m

y

|←18 m→|

26) Find the area of a right triangle with hypotenuse length 17 cm and one leg length 15 cm.

27) How high on a building will a 15-foot ladder touch if the foot of the ladder is 5 feet from the building?

28) The congruent sides of an isosceles triangle measure 6 cm, and the base measures 8 cm. Find the area.

29) Calculate each lettered angle, measure, or arc. $\overline{EF}$ is a diameter; ℓ_1 and ℓ_2 are tangents.

$a =$_____

$b =$_____

$c =$_____

$d =$_____

$e =$_____

$f =$_____

$g =$_____

$h =$_____

$n =$_____

$r =$_____

$s =$_____

$t =$_____

$u =$_____

$v =$_____

ℓ_1

u F t

58°

v

n a

g r

s f e h

d c b

E 106° ℓ_2