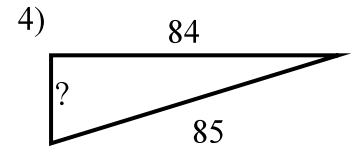Special Triangles
Geometry

Find the missing length.

1)

8
?
15

2)

21
?
20

3)

41
9
?

4)

84
?
85
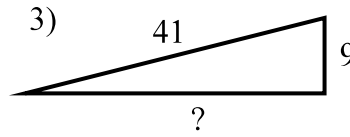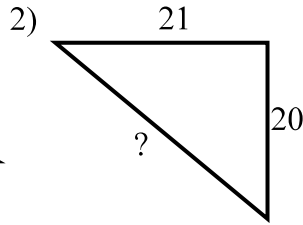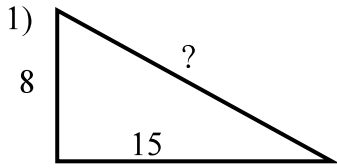
$8^2 + 15^2 = c^2$
$64 + 225 = c^2$
$289 = c^2$
$17 = c$

$21^2 + 20^2 = c^2$
$441 + 400 = c^2$
$841 = c^2$
$29 = c$

$9^2 + b^2 = 41^2$
$81 + b^2 = 1681$
$b^2 = 1600$
$b = 40$

$a^2 + 84^2 = 85^2$
$a^2 + 7056 = 7225$
$a^2 = 169$
$a = 13$

Given the length of one side of the 45-45-90 triangle at the right find the other two sides to the nearest tenth..

5) J = 7
    K = 7
    $L = 7\sqrt{2} = 9.9$

6) K = 10
    J = 10
    $L = 10\sqrt{2} = 14.1$

7) K = 4
    J = 4
    $L = 4\sqrt{2} = 5.7$

8) $L = 6\sqrt{2}$
    $K = \dfrac{6\sqrt{2}}{\sqrt{2}} = 6$
    J = 6

9) $L = 9\sqrt{2}$
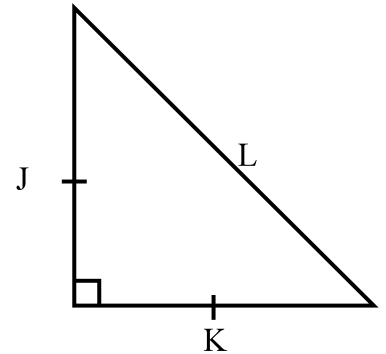 $J = \dfrac{9\sqrt{2}}{\sqrt{2}} = 9$
    K = 9

10) $J = 5\sqrt{2}$
     L = 10
     $K = 5\sqrt{2} = 7.1$

11) L = 24
     $K = 24 \div \sqrt{2} = 17.0$
     J = 17.0

12) J = 14
     K = 14
     $L = 14\sqrt{2} = 19.8$

13) $K = 12\sqrt{2}$
     $J = 12\sqrt{2} = 17.0$
     $L = 12\sqrt{2}\,\sqrt{2}$
     $= 12 * 2 = 24$

14) L = 17
     $J = 17 \div \sqrt{2} = 12.0$
     $K = 17 \div \sqrt{2} = 12.0$

J
L
K

Given the length of one side of the 30-60-90 triangle at the right find the other sides to the nearest tenth.

15) $U = 10$
   $V = 2*10 = 20$
   $T = 10\sqrt{3} = 17.3$

16) $U = 22$
   $V = 22*2 = 44$
   $T = 22\sqrt{3} = 38.1$

17) $V = 8$
   $U = 8 \div 2 = 4$

   $T = 4\sqrt{3} = 6.9$

18) $T = 7\sqrt{3}$
   $U = \dfrac{7\sqrt{3}}{\sqrt{3}} = 7$

   $V = 7*2 = 14$

19) $U = 13$
   $V = 13*2 = 26$
   $T = 13\sqrt{3} = 22.5$

20) $V = 16$
   $U = 16 \div 2 = 8$
   $T = 8\sqrt{3} = 13.9$

21) $T = 3\sqrt{3}$
   $U = \dfrac{3\sqrt{3}}{\sqrt{3}} = 3$
   $V = 2*3 = 6$

22) $U = 6$
   $T = 6\sqrt{3} = 10.4$
   $V = 6*2 = 12$

23) $U = 4\sqrt{3}$
   $T = 4\sqrt{3}\sqrt{3} = 4*3 = 12$
   $V = 2*4\sqrt{3} = 8\sqrt{3} = 13.9$

24) $T = 9$
   $U = 9 \div \sqrt{3} = 5.2$
   $V = 2*9 \div \sqrt{3} = 10.4$