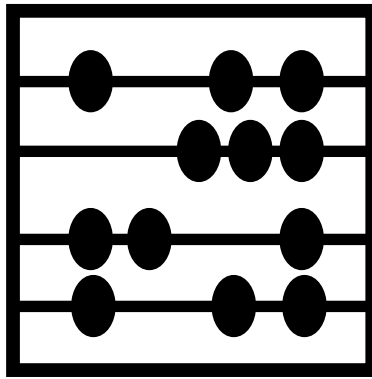

30-60-90 Triangles



Geometry

Practice Worksheet

Practice you can't find anywhere else

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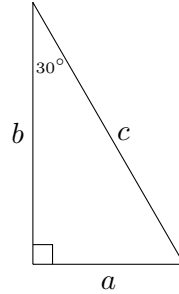
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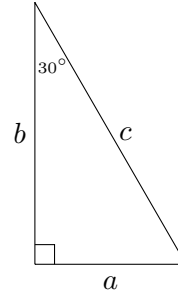
Solve the 30-60-90 triangle for the indicated side(s).

Type 1: Short leg is given

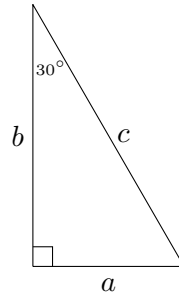
1. If $a = 2$, solve for b and c .



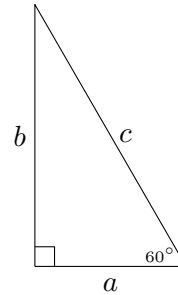
2. If $a = 3$, solve for b and c .



3. If $a = 5$, solve for b and c .

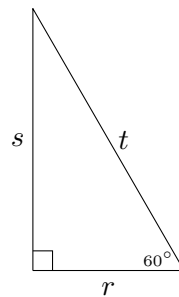


4. If $a = 7$, solve for b and c .

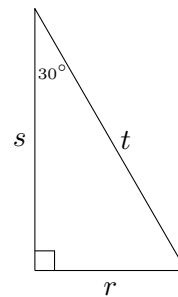


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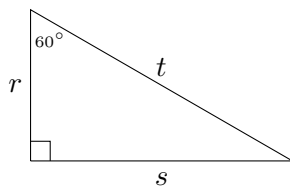
5. If $r = 4\sqrt{3}$, solve for s and t .



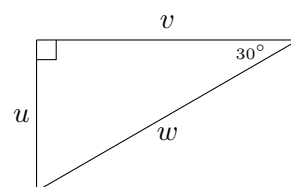
6. If $r = 5\sqrt{3}$, solve for s and t .



7. If $r = 2\sqrt{3}$, solve for s and t .



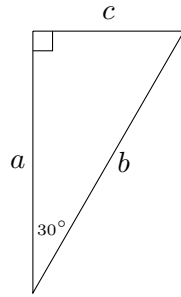
8. If $u = 12\sqrt{3}$, solve for v and w .



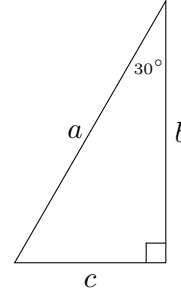


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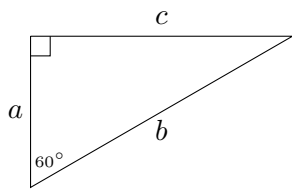
9. If $c = 6\sqrt{2}$, solve for a and b .



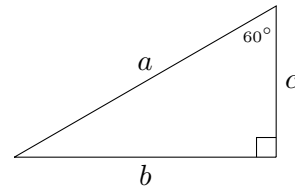
10. If $c = 9\sqrt{5}$, solve for b and a .



11. If $a = 4\sqrt{7}$, solve for c and b .

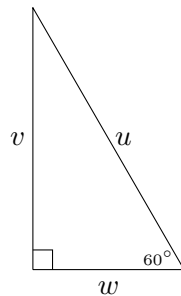


12. If $c = 15\sqrt{11}$, solve for b and a .

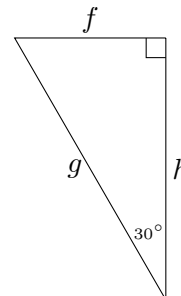


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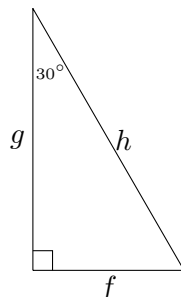
13. If $w = 2\sqrt{6}$, solve for v and u .



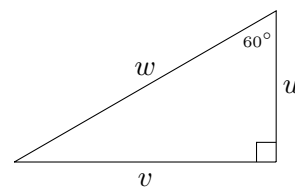
14. If $f = 8\sqrt{6}$, solve for h and g .



15. If $f = 9\sqrt{15}$, solve for g and h .



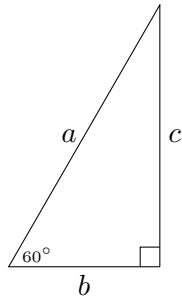
16. If $u = 15\sqrt{21}$, solve for v and w .



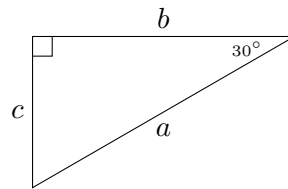


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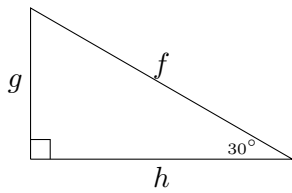
17. If $b = \sqrt{160}$, solve for c and a .



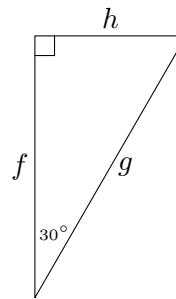
18. If $c = \sqrt{288}$, solve for b and a .



19. If $g = 6\sqrt{99}$, solve for h and f .

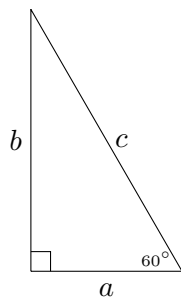


20. If $h = 10\sqrt{175}$, solve for f and g .

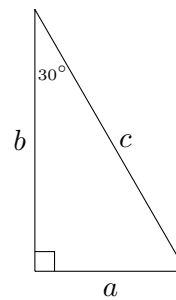


Type 2: Hypotenuse is given

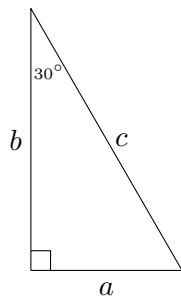
21. If $c = 4$, solve for a and b .



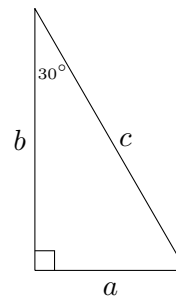
22. If $c = 8$, solve for a and b .



23. If $c = 10$, solve for a and b .



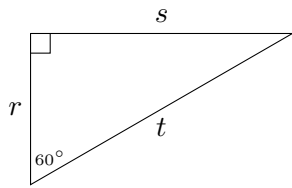
24. If $c = 12$, solve for a and b .



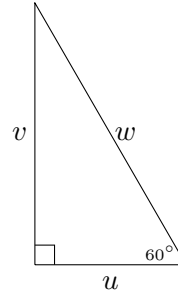


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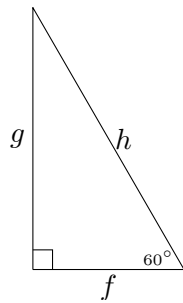
25. If $t = 8\sqrt{3}$, solve for r and s .



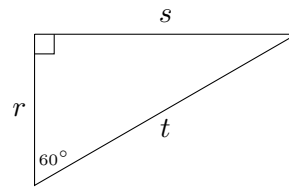
26. If $w = 10\sqrt{3}$, solve for u and v .



27. If $h = 18\sqrt{3}$, solve for f and g .

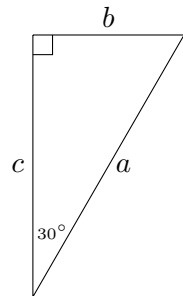


28. If $t = 20\sqrt{3}$, solve for r and s .

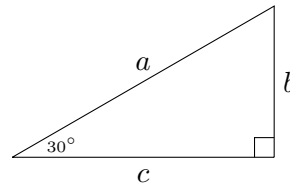


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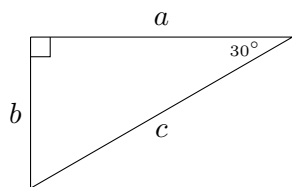
29. If $a = 24\sqrt{2}$, solve for b and c .



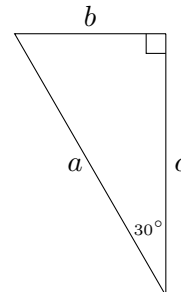
30. If $a = 8\sqrt{5}$, solve for b and c .



31. If $c = 6\sqrt{7}$, solve for b and a .



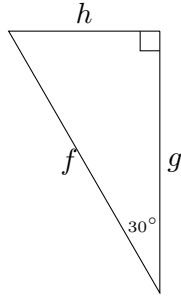
32. If $a = 10\sqrt{13}$, solve for b and c .



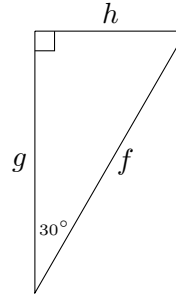


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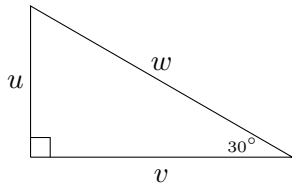
33. If $f = 6\sqrt{6}$, solve for h and g .



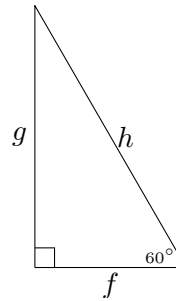
34. If $f = 4\sqrt{15}$, solve for h and g .



35. If $w = 14\sqrt{30}$, solve for u and v .

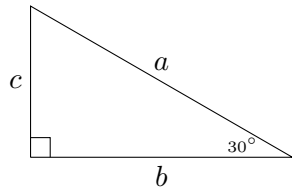


36. If $h = 28\sqrt{45}$, solve for f and g .

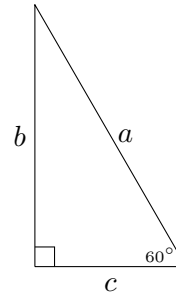


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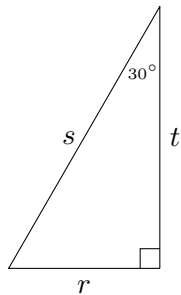
37. If $a = \sqrt{200}$, solve for c and b .



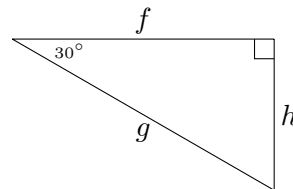
38. If $a = \sqrt{320}$, solve for c and b .



39. If $s = 2\sqrt{112}$, solve for r and t .



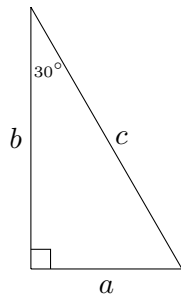
40. If $g = 10\sqrt{176}$, solve for h and f .



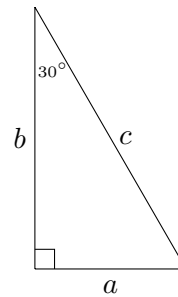


Type 3: Long leg is given

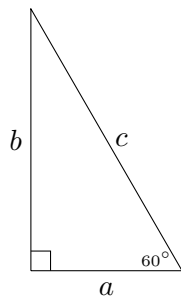
41. If $b = 2\sqrt{3}$, solve for a and c .



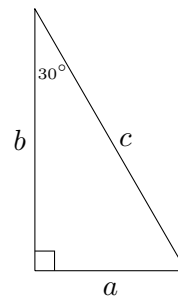
42. If $b = 5\sqrt{3}$, solve for a and c .



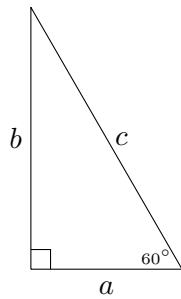
43. If $b = 9\sqrt{3}$, solve for a and c .



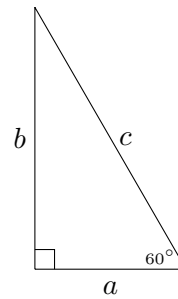
44. If $b = 12\sqrt{3}$, solve for a and c .



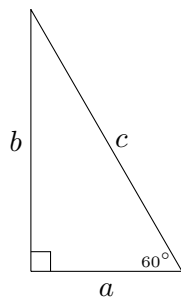
... 45. If $b = 6$, solve for a and c .



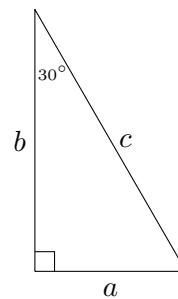
46. If $b = 9$, solve for a and c .



47. If $b = 15$, solve for a and c .



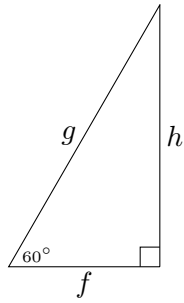
48. If $b = 18$, solve for a and c .



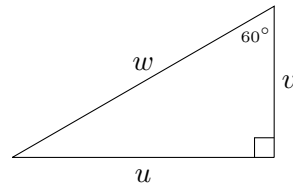


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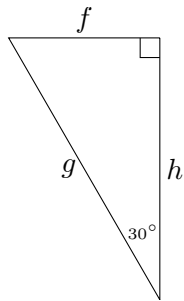
49. If $h = 4\sqrt{6}$, solve for f and g .



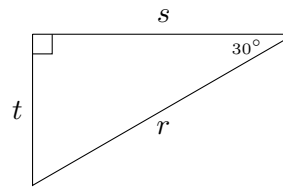
50. If $u = 7\sqrt{15}$, solve for v and w .



51. If $h = 8\sqrt{21}$, solve for f and g .

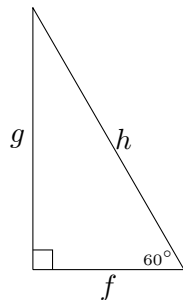


52. If $s = 10\sqrt{45}$, solve for t and r .

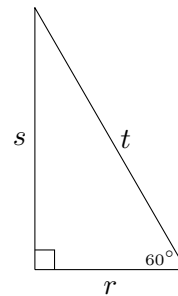


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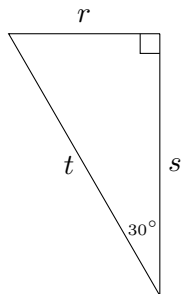
53. If $g = 6\sqrt{2}$, solve for f and h .



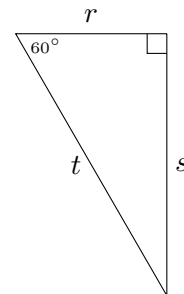
54. If $s = 9\sqrt{5}$, solve for r and t .



55. If $s = 12\sqrt{13}$, solve for r and t .



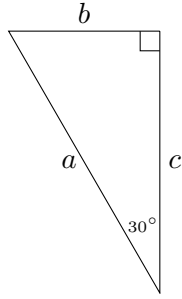
56. If $s = 24\sqrt{17}$, solve for r and t .



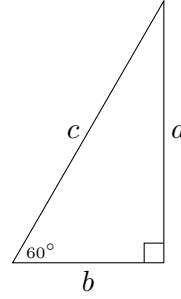


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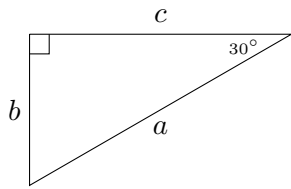
57. If $c = \sqrt{72}$, solve for b and a .



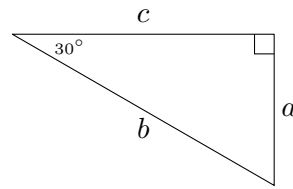
58. If $a = \sqrt{405}$, solve for b and c .



59. If $c = 3\sqrt{80}$, solve for b and a .



60. If $c = 6\sqrt{250}$, solve for a and b .



Type 1: Short leg is given

1. $b = 2\sqrt{3}, c = 4$

2. $b = 3\sqrt{3}, c = 6$

3. $b = 5\sqrt{3}, c = 10$

4. $b = 7\sqrt{3}, c = 14$

5. $s = 12, t = 8\sqrt{3}$

6. $s = 15, t = 10\sqrt{3}$

7. $s = 6, t = 4\sqrt{3}$

8. $v = 36, w = 24\sqrt{3}$

9. $a = 6\sqrt{6}, b = 12\sqrt{2}$

10. $b = 9\sqrt{15}, a = 18\sqrt{5}$

11. $c = 4\sqrt{21}, b = 8\sqrt{7}$

12. $b = 15\sqrt{33}, a = 30\sqrt{11}$

13. $v = 6\sqrt{2}, u = 4\sqrt{6}$

14. $h = 24\sqrt{2}, g = 16\sqrt{6}$

15. $g = 27\sqrt{5}, h = 18\sqrt{15}$

16. $v = 45\sqrt{7}, w = 30\sqrt{21}$

17. $c = 4\sqrt{30}, a = 8\sqrt{10}$

18. $b = 12\sqrt{6}, a = 24\sqrt{2}$

19. $h = 18\sqrt{33}, f = 36\sqrt{11}$

20. $f = 50\sqrt{21}, g = 100\sqrt{7}$

Type 2: Hypotenuse is given

21. $a = 2, b = 2\sqrt{3}$

22. $a = 4, b = 4\sqrt{3}$

23. $a = 5, b = 5\sqrt{3}$

24. $a = 6, b = 6\sqrt{3}$

25. $r = 4\sqrt{3}, s = 12$

26. $u = 5\sqrt{3}, v = 15$

27. $f = 9\sqrt{3}, g = 27$

28. $r = 10\sqrt{3}, s = 30$

29. $b = 12\sqrt{2}, c = 12\sqrt{6}$

30. $b = 4\sqrt{5}, c = 4\sqrt{15}$

31. $b = 3\sqrt{7}, a = 3\sqrt{21}$

32. $b = 5\sqrt{13}, c = 5\sqrt{39}$

33. $h = 3\sqrt{6}, g = 9\sqrt{2}$

34. $h = 2\sqrt{15}, g = 6\sqrt{5}$

35. $u = 7\sqrt{30}, v = 21\sqrt{10}$

36. $f = 42\sqrt{5}, g = 42\sqrt{15}$

37. $c = 5\sqrt{2}, b = 5\sqrt{6}$

38. $c = 4\sqrt{5}, b = 4\sqrt{15}$

39. $r = 4\sqrt{7}, t = 4\sqrt{21}$

40. $h = 20\sqrt{11}, f = 20\sqrt{33}$

Type 3: Long leg is given

41. $a = 2, c = 4$

42. $a = 5, c = 10$

43. $a = 9, c = 18$

44. $a = 12, c = 24$

45. $a = 2\sqrt{3}, c = 4\sqrt{3}$

46. $a = 3\sqrt{3}, c = 6\sqrt{3}$

47. $a = 5\sqrt{3}, c = 10\sqrt{3}$

48. $a = 6\sqrt{3}, c = 12\sqrt{3}$

49. $f = 4\sqrt{2}, g = 8\sqrt{2}$

50. $v = 7\sqrt{5}, w = 14\sqrt{5}$

51. $f = 8\sqrt{7}, g = 16\sqrt{7}$

52. $t = 10\sqrt{15}, r = 20\sqrt{15}$

53. $f = 2\sqrt{6}, h = 4\sqrt{6}$

54. $r = 3\sqrt{15}, t = 6\sqrt{15}$

55. $r = 4\sqrt{39}, t = 8\sqrt{39}$

56. $r = 8\sqrt{51}, t = 16\sqrt{51}$

57. $b = 2\sqrt{6}, a = 4\sqrt{6}$

58. $b = 3\sqrt{15}, c = 6\sqrt{15}$

59. $b = 4\sqrt{15}, a = 8\sqrt{15}$

60. $a = 10\sqrt{30}, b = 20\sqrt{30}$