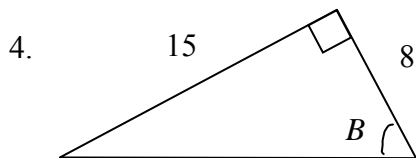
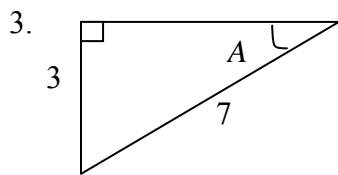
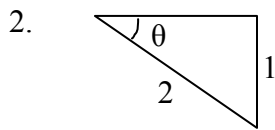
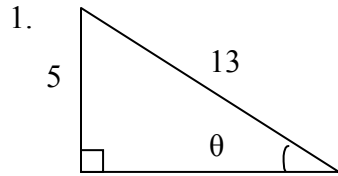


Section 4.1: Introduction to Trigonometry

Exercises

Calculate the remaining side for the following right triangles. Give exact answers.



5. $a = 2, b = 3$

6. $a = \sqrt{15}, c = 4$

7. $b = 1, c = 5$

8. $a = 6, b = 8$

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

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

For the following right triangles, calculate all three basic trig functions of angle A exactly.

11. $a = 1, b = 1$

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

13. $b = 4, c = 6$

14. $a = 4, b = 5$

Use your calculator to calculate the values of the following trig functions. Round your answer to four decimal places.

15. $\sin 64^\circ$

16. $\cos 35^\circ$

17. $\tan 27.5^\circ$

18. $\tan 89.273^\circ$

19. $\cos 4.3^\circ$

20. $\sin 4.3^\circ$

Given the following function values, calculate the value of θ if θ is acute. Round your answer to two decimal places.

21. $\sin \theta = 0.35$

22. $\cos \theta = 0.99$

23. $\tan \theta = 103$

24. $\sin \theta = 2.1$

25. $\cos \theta = 1.6$

26. $\tan \theta = 1.6$

27. (trickier) If θ is acute and $\sin \theta = \cos \theta$, find θ .

28. (trickier) For any right triangle, what is the relationship between $\sin A$ and $\cos B$?

29. (irritating) For any right triangle, find a formula for the three trig functions of A in terms of a and c only.