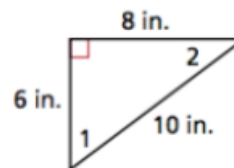# Honors Math 2
Solving Right Triangles

Use the given trigonometric ratio to determine which angle of the triangle is ∠A.

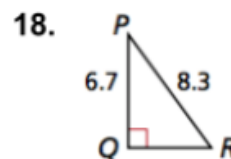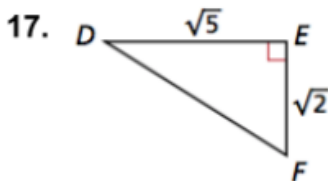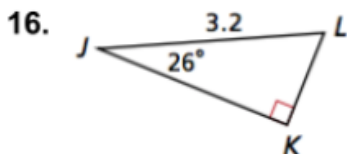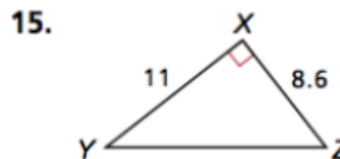1. $\sin A = \dfrac{4}{5}$ 2. $\tan A = 1\dfrac{1}{3}$ 3. $\cos A = 0.6$

8 in.

6 in.

10 in.

2

1

4. $\cos A = 0.8$ 5. $\tan A = 0.75$ 6. $\sin A = 0.6$

Use your calculator to find each angle measure to the nearest degree.

7. $\tan^{-1}(2.1)$ 8. $\cos^{-1}\left(\dfrac{1}{3}\right)$ 9. $\cos^{-1}\left(\dfrac{5}{6}\right)$

10. $\sin^{-1}(0.5)$ 11. $\sin^{-1}(0.61)$ 12. $\tan^{-1}(0.09)$

Multi-Step Find the unknown measures. Round lengths to the nearest hundredth and angle measures to the nearest degree.

13.

R

3.1

Q   8.9   P

14. A   32°   B

7.4

C

15.

X

11   8.6

Y   Z

16.

J   3.2   L

26°

K

17. D $\sqrt{5}$ E

$\sqrt{2}$

F

18.

P

6.7   8.3

Q   R
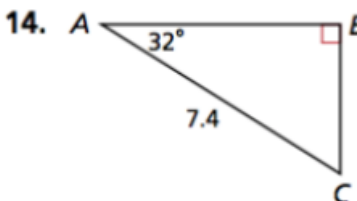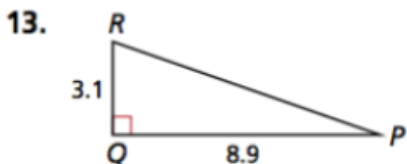
19. **Cycling** A hill in the Tour de France bike race has a grade of 8%. To the nearest degree, what is the angle that this hill makes with a horizontal line?
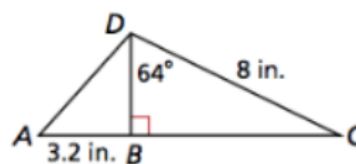
20. The wheelchair ramp at the entrance of the Mission Bay Library has a slope of $\frac{1}{18}$. What angle does the ramp make with the sidewalk? Round to the nearest degree.

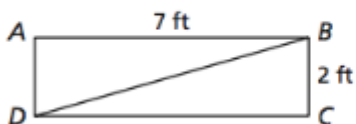**Find each angle measure. Round to the nearest degree.**
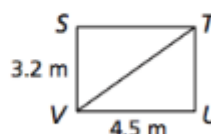
21. m∠J
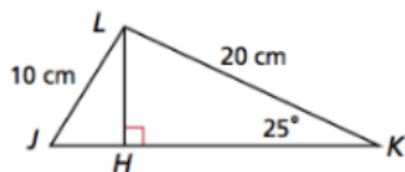
22. m∠A

Find the indicated measure in each rectangle. Round to the nearest degree.

23. m∠BDC

24. m∠STV

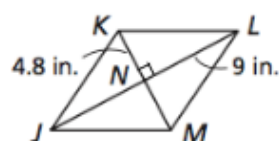**Find the indicated measure in each rhombus. Round to the nearest degree.**

25. m∠DGF
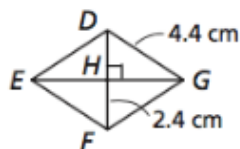
26. m∠LKN

27. Critical Thinking Use trigonometric ratios to explain why the diagonal of a square forms a 45° angle with each of the sides.