Answer Key · Lesson 9.5: The Tangent Ratio

School Launch · Geometry · Unit 9 · Worksheet A · for the parent

Key

1. ≈ 25.5

The leg adjacent to a 63° angle in a right triangle is 13. Find the opposite leg (nearest tenth).

2. ≈ 4.0

The leg adjacent to a 39° angle in a right triangle is 5. Find the opposite leg (nearest tenth).

3. ≈ 32.0

The leg adjacent to a 58° angle in a right triangle is 20. Find the opposite leg (nearest tenth).

4. ≈ 2.4

1. $\tan 22^\circ = \dfrac{\text{opp}}{\text{adj}}$, so $\text{opp} = 6\tan 22^\circ$
2. $= 6(0.4040) \approx 2.4$

The leg adjacent to a 22° angle in a right triangle is 6. Find the opposite leg (nearest tenth).

5. ≈ 21.4

1. $\tan 43^\circ = \dfrac{\text{opp}}{\text{adj}}$, so $\text{opp} = 23\tan 43^\circ$
2. $= 23(0.9325) \approx 21.4$

The leg adjacent to a 43° angle in a right triangle is 23. Find the opposite leg (nearest tenth).

6. ≈ 4.8

1. $\tan 19^\circ = \dfrac{\text{opp}}{\text{adj}}$, so $\text{opp} = 14\tan 19^\circ$
2. $= 14(0.3443) \approx 4.8$

The leg adjacent to a 19° angle in a right triangle is 14. Find the opposite leg (nearest tenth).

7. ≈ 35.8

1. $\tan 50^\circ = \dfrac{\text{opp}}{\text{adj}}$, so $\text{opp} = 30\tan 50^\circ$
2. $= 30(1.1918) \approx 35.8$

The leg adjacent to a 50° angle in a right triangle is 30. Find the opposite leg (nearest tenth).

8. $\approx 51.7^\circ$

1. $\tan A = \frac{\text{opp}}{\text{adj}}$
2. $A = \tan^{-1}\left(\frac{19}{15}\right)$

A right triangle has legs 19 (opposite $\angle A$) and 15 (adjacent). Find $m\angle A$ to the nearest tenth of a degree.

9. $\approx 49.4^\circ$

1. $\tan A = \frac{\text{opp}}{\text{adj}}$
2. $A = \tan^{-1}\left(\frac{7}{6}\right)$

A right triangle has legs 7 (opposite $\angle A$) and 6 (adjacent). Find $m\angle A$ to the nearest tenth of a degree.

10. $\approx 33.7^\circ$

1. $\tan A = \frac{\text{opp}}{\text{adj}}$
2. $A = \tan^{-1}\left(\frac{10}{15}\right)$

A right triangle has legs 10 (opposite $\angle A$) and 15 (adjacent). Find $m\angle A$ to the nearest tenth of a degree.