

TI-30XA Calculator Guide: Solving for θ in Problem 5

The calculation required for Problem 5 is to find the angle θ :

$$\theta = \tan^{-1}\left(\frac{8}{15}\right)$$

The TI-30XA is an algebraic entry calculator, which means you must calculate the ratio (the fraction) first before applying the inverse trigonometric function.

Step 1: Ensure Calculator is in Degree Mode

As with all trigonometry problems, ensure your calculator is set to **DEG** (Degrees) mode.

- **Check:** Look for "DEG" on the display.
- **Change:** If necessary, press the **DRG** key (often labeled $\text{DRG} \rightarrow$) until "DEG" is displayed.

Step 2: Calculate the Ratio (8 / 15)

First, calculate the value of the ratio $\frac{8}{15}$.

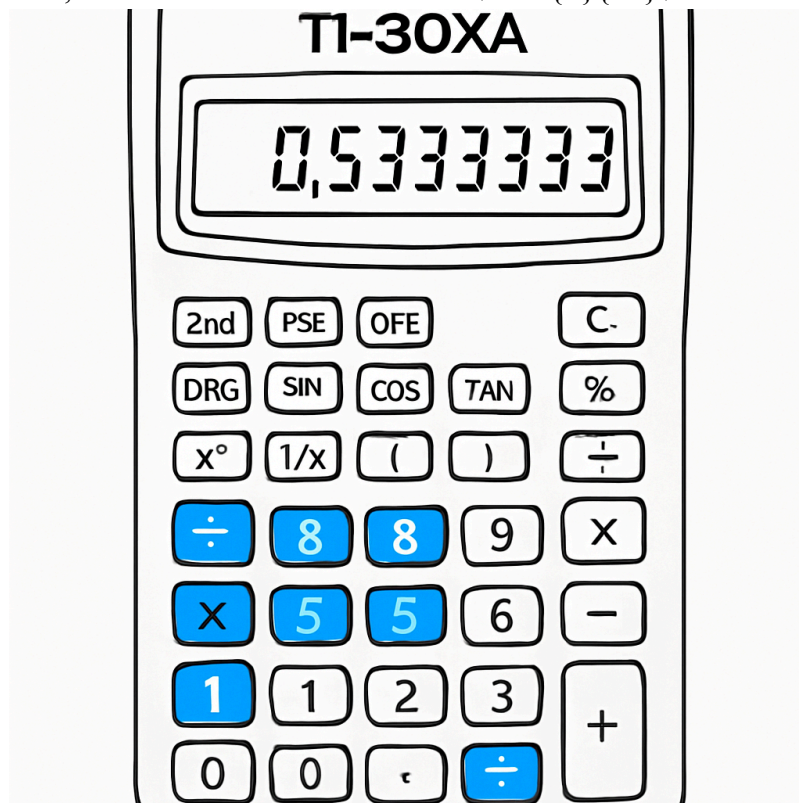


Figure 1: The calculator displays the result of the division, which is the value of $\tan(\theta)$.

Step 3: Apply the Inverse Tangent Function (\tan^{-1})

With the ratio still on the display, you can now apply the inverse tangent function to find the angle.

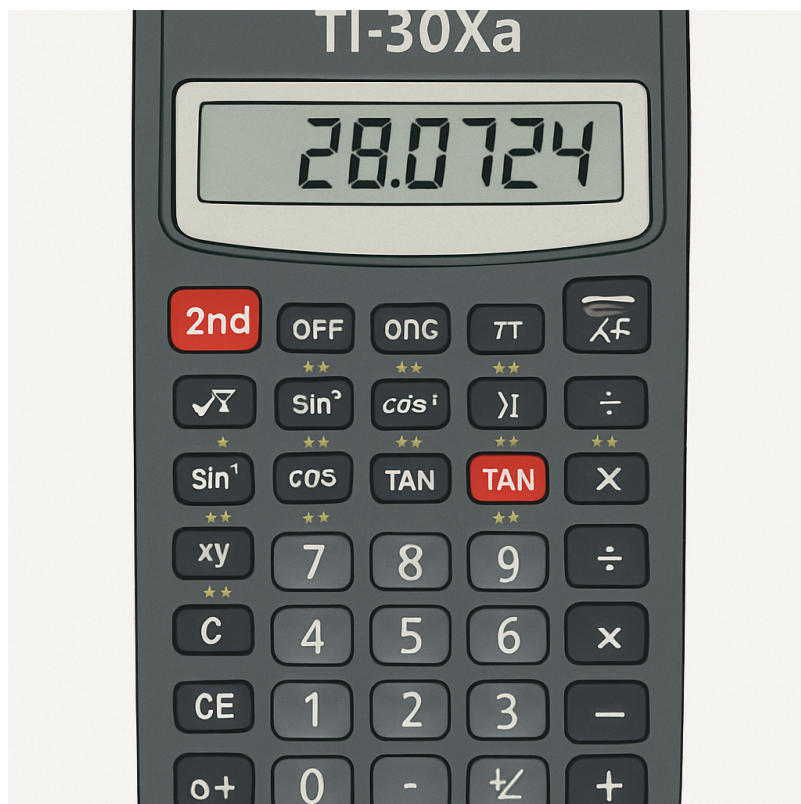


Figure 2: The final calculation is performed, resulting in the value of θ .

Final Result

The calculator should display the result:

$$\theta \approx 28.0724$$

Rounding to the nearest hundredth of a degree, as per the worksheet instructions, gives:

$$\theta \approx \mathbf{28.07^\circ}$$