

4.3A HW Answers

35.	Scientific Calculator	Graphing Calculator	Display (rounded to the nearest degree)
	.2974 $\boxed{\text{SIN}^{-1}}$	$\boxed{\text{SIN}^{-1}}$.2974 $\boxed{\text{ENTER}}$	17

If $\sin \theta = 0.2974$, then $\theta \approx 17^\circ$.

36.	Scientific Calculator	Graphing Calculator	Display (rounded to the nearest degree)
	.877 $\boxed{\text{COS}^{-1}}$	$\boxed{\text{COS}^{-1}}$.877 $\boxed{\text{ENTER}}$	29

If $\cos \theta = 0.877$, then $\theta \approx 29^\circ$.

37.	Scientific Calculator	Graphing Calculator	Display (rounded to the nearest degree)
	4.6252 $\boxed{\text{TAN}^{-1}}$	$\boxed{\text{TAN}^{-1}}$ 4.6252 $\boxed{\text{ENTER}}$	78

If $\tan \theta = 4.6252$, then $\theta \approx 78^\circ$.

38.	Scientific Calculator	Graphing Calculator	Display (rounded to the nearest degree)
	26.0307 $\boxed{\text{TAN}^{-1}}$	$\boxed{\text{TAN}^{-1}}$ 26.0307 $\boxed{\text{ENTER}}$	88

If $\tan \theta = 26.0307$, then $\theta \approx 88^\circ$.

39.	Scientific Calculator	Graphing Calculator	Display (rounded to three places)
	.4112 $\boxed{\text{COS}^{-1}}$	$\boxed{\text{COS}^{-1}}$.4112 $\boxed{\text{ENTER}}$	1.147

If $\cos \theta = 0.4112$, then $\theta \approx 1.147$ radians.

40.	Scientific Calculator	Graphing Calculator	Display (rounded to three places)
	.9499 $\boxed{\text{SIN}^{-1}}$	$\boxed{\text{SIN}^{-1}}$.9499 $\boxed{\text{ENTER}}$	1.253

If $\sin \theta = 0.9499$, then $\theta \approx 1.253$ radians.

41.	Scientific Calculator	Graphing Calculator	Display (rounded to three places)
	.4169 $\boxed{\text{TAN}^{-1}}$	$\boxed{\text{TAN}^{-1}}$.4169 $\boxed{\text{ENTER}}$.395

If $\tan \theta = 0.4169$, then $\theta \approx 0.395$ radians.

42.	Scientific Calculator	Graphing Calculator	Display (rounded to three places)
	.5117 $\boxed{\text{TAN}^{-1}}$	$\boxed{\text{TAN}^{-1}}$.5117 $\boxed{\text{ENTER}}$.473

If $\tan \theta = 0.5117$, then $\theta \approx 0.473$

$$54. \quad \tan 40^\circ = \frac{h}{35}$$

$$h = 35 \tan 40^\circ$$

$$h \approx 35(0.8391) \approx 29$$

The tree's height is approximately 29 feet.

$$55. \quad \tan \theta = \frac{125}{172}$$

Use a calculator in degree mode to find θ .

Many Scientific Calculators	Many Graphing Calculators
125 \div 172 $=$ $\boxed{\text{TAN}^{-1}}$	$\boxed{\text{TAN}^{-1}}$ $\boxed{(}$ 125 \div 172 $\boxed{)}$ $\boxed{\text{ENTER}}$

The display should show approximately 36. Thus, the angle of elevation of the sun is approximately 36° .

$$57. \quad \sin 10^\circ = \frac{500}{c}$$

$$c = \frac{500}{\sin 10^\circ} \approx \frac{500}{0.1736} \approx 2880$$

The plane has flown approximately 2880 feet.

$$58. \quad \sin 5^\circ = \frac{a}{5000}$$

$$a = 5000 \sin 5^\circ \approx 5000(0.0872) = 436$$

The driver's increase in altitude was approximately 436 feet.

$$59. \quad \cos \theta = \frac{60}{75}$$

Use a calculator in degree mode to find θ .

Many Scientific Calculators	Many Graphing Calculators
60 \div 75 $=$ $\boxed{\text{COS}^{-1}}$	$\boxed{\text{COS}^{-1}}$ $\boxed{(}$ 60 \div 75 $\boxed{)}$ $\boxed{\text{ENTER}}$

The display should show approximately 37. Thus, the angle between the wire and the pole is approximately 37° .