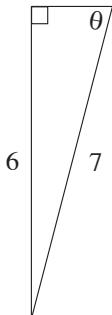


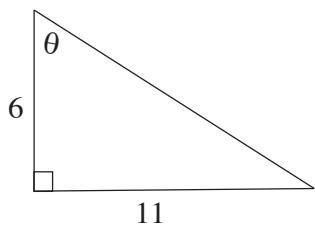
Comprehensive Trigonometry Drill

The answers can be found in Part IV.



14. In the figure above, what is the value of $\cos \theta$?

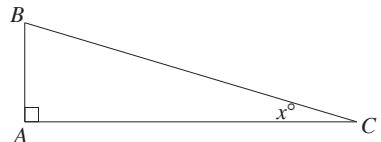
(A) $\frac{\sqrt{13}}{7}$
 (B) $\frac{\sqrt{13}}{6}$
 (C) $\frac{6}{7}$
 (D) $\frac{7}{6}$
 (E) $\frac{7\sqrt{13}}{13}$



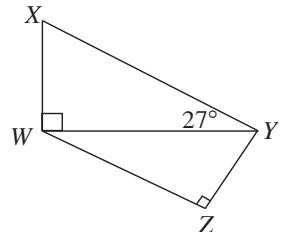
19. In the figure above, what is the value of θ in degrees?

(A) 28.61
 (B) 33.06
 (C) 49.09
 (D) 56.94
 (E) 61.39

23. If $\tan^2 \theta = 4.60$, then $\cos \frac{\theta}{5} =$
 (A) 0.225
 (B) 0.268
 (C) 0.423
 (D) 0.963
 (E) 0.974



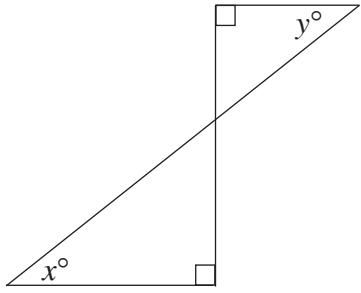
24. In the figure above, if $x = 19$ and $AC = 10$, then $AB =$
 (A) 1.63
 (B) 3.26
 (C) 3.44
 (D) 9.46
 (E) 29.04



29. In the figure above, if $XY \parallel WZ$ and $WY = 8$, then $YZ =$
 (A) 3.63
 (B) 4.08
 (C) 7.13
 (D) 8.98
 (E) 17.62

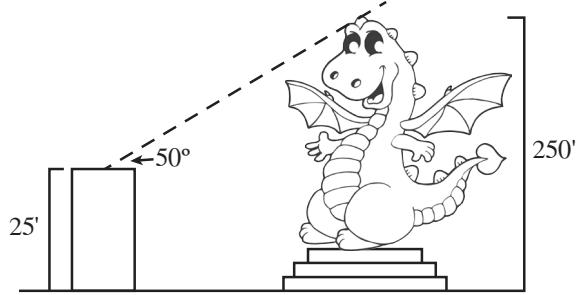
38. If $0 < \theta < \frac{\pi}{2}$ and $\cos \theta = 0.173$, then $\sin \frac{\theta}{4} =$

(A) -0.641
 (B) 0.342
 (C) 0.985
 (D) 1.397
 (E) 5.693



40. In the figure above, $\sin x^\circ = \frac{3}{5}$. Which of the following is equal to $\cos y^\circ$?

(A) $\frac{3}{5}$
 (B) $\frac{3}{4}$
 (C) $\frac{4}{5}$
 (D) $\frac{5}{4}$
 (E) It cannot be determined from the information given.



42. In the figure above, the pillar on the left is 25 feet tall, the dragon statue on the right is 250 feet tall, and the angle created by the line from the center of the top of the pillar to the center of the top of the dragon statue is 50° . What is the approximate distance, in feet, from the middle of the pillar to the middle of the statue?

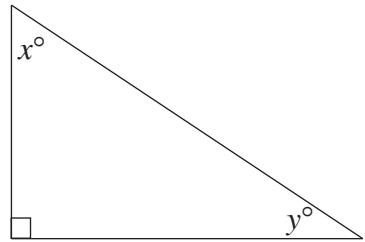
(A) 145
 (B) 188
 (C) 210
 (D) 268
 (E) 298

46. If $\frac{4\cos^2 \theta}{3} = 1$, then what is the approximate value of θ in degrees?

(A) 30
 (B) 37
 (C) 41
 (D) 60
 (E) 90

47. Where defined, $\frac{\sin^2 x - \cos^2 x}{\sin^4 x - \cos^4 x} =$

- (A) 0
- (B) 1
- (C) $\sin^2 x$
- (D) $\cos^2 x$
- (E) $\tan^2 x$



Note: Figure not drawn to scale

50. Given the triangle above, which of the following must be true?

- I. $\sin x^\circ = \cos y^\circ$
- II. $\tan x^\circ > \tan y^\circ$
- III. $\sin^2 x + \sin^2 y = 1$

- (A) I only
- (B) II only
- (C) I and III only
- (D) II and III only
- (E) I, II, and III