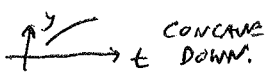
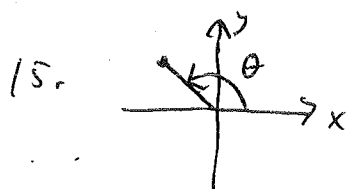


## Answer List

1.  $\frac{5}{13}$
4.  $2\sqrt{3}$
7.  $46.0^\circ$
10. IV, III, II.  $75^\circ, 58^\circ, 75^\circ$
13.  $\frac{\sqrt{2}}{2}$
16. See below.
19. GRAPH
22. E
25.  $-\frac{1}{3}$
28.  $-\frac{r^5}{32w^3}$
31. C
34. D
37. 
40.  $\frac{\log 3.81}{\log 12} = 0.5383$
43. GRAPH. V.A.S.Y.  $X = -8$ .
46. 2000
2.  $\frac{2\sqrt{5}}{5}$
5.  $\angle B = 32.0^\circ, a \approx 10.0 \text{ ft}, b \approx 6.25 \text{ ft}$
8. 15.0 m; 50.0 m
11.  $\frac{8}{9}, -\frac{\sqrt{17}}{9}$
14.  $\sqrt{3}$
17. not a function
20.  $f(x) = \begin{cases} \frac{2}{5}x + \frac{1}{5}, & \text{if } x \leq 2 \\ 1, & \text{if } x \geq 2 \end{cases}$
23. A
26.  $y = 5x + 1$
29.  $-35y$
32. E
35. A
38.  $y = 4$
41.  $x = \frac{1 + \ln 4}{2} \approx 1.19$
44. 7.5 million, 22.5 million, 1.05 billion; 28.4 billion
47.  $\begin{cases} A = e^{-0.01505t}, 0.004114 \text{ gram}, \\ 46 \text{ days}, 153 \text{ days} \\ \text{OR} \\ A = (0.9)^{t/7} \end{cases}$
3. 2
6.  $\angle A \approx 62.5^\circ, \angle B \approx 27.5^\circ, a = \sqrt{133} \approx 11.5 \text{ km}$
9.  $41^\circ 51'$  or  $41.85^\circ$
12.  $\frac{\sqrt{3}}{2}$
15. See below
18. function
21. D
24.  $\frac{3}{2}$
27.  $y = \frac{1}{4}x - 4$
30. a, **C**, b, ~~None~~ c, **B**, d, **A**.
33. CONCAVE UP. slope increases.
36. A
39.  $x = 3$
42. GRAPH. H.A.S.Y.  $y = 0$ .
45. \$1210; \$1218; \$1221.37; \$1221.40
48. 200 times

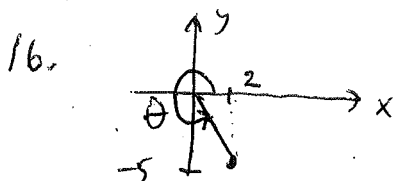


$$r = \sqrt{(-1)^2 + 1^2} = \sqrt{2}$$

$$\cos \theta = \frac{-1}{\sqrt{2}} \quad \sec \theta = -\sqrt{2}$$

$$\sin \theta = \frac{1}{\sqrt{2}} \quad \csc \theta = \sqrt{2}$$

$$\tan \theta = -1 \quad \cot \theta = -1$$



$$r = \sqrt{(2)^2 + (-5)^2} = \sqrt{29}$$

$$\cos \theta = \frac{2}{\sqrt{29}}$$

$$\sec \theta = \frac{\sqrt{29}}{2}$$

$$\sin \theta = \frac{-5}{\sqrt{29}}$$

$$\csc \theta = -\frac{\sqrt{29}}{5}$$

$$\tan \theta = -\frac{5}{2}$$

$$\cot \theta = -\frac{2}{5}$$

Updated Answers to Multiple Choice  
21B, 22E, 23E, 31E, 32A, 34A, 35D, 36D.