

227: 19-21, 27-28, 31-32, 47-48, 93-94, 102

$$19. \sin 17^\circ = \frac{x}{11}$$

$$x = 11 \sin 17^\circ \\ = 3.2$$

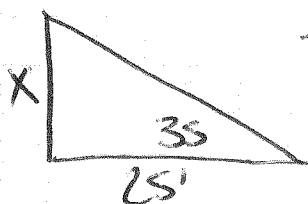
$$20. \tan 51^\circ = \frac{10}{x}$$

$$x = \frac{10}{\tan 51^\circ} = 6.5$$

$$21. \cos 35^\circ = \frac{x}{5}$$

$$5 \cos 35^\circ = 4.1$$

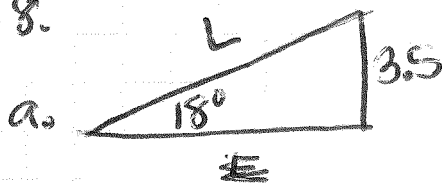
27.



$$\tan 35^\circ = \frac{x}{25}$$

$$25 \tan 35^\circ = x = 17.5 \text{ feet}$$

28.



$$b \sin 18^\circ = \frac{3.5}{L}$$

$$L = \frac{3.5}{\sin 18^\circ} = 11.3$$

$$31. \sin \theta = \frac{7}{29} \quad \theta = 14^\circ$$

$$32. \cos \theta = \frac{36}{54} \quad \theta = 48^\circ$$

$$47. A = 20^\circ$$

$$a = 6$$

$$B = 70^\circ$$

$$b = 16.5$$

$$C = 90^\circ$$

$$c = 17.5$$

$$\cos 20^\circ = \frac{6}{c}$$

$$\tan 20^\circ = \frac{6}{b}$$

$$\sin 20^\circ = \frac{6}{c}$$

$$\frac{6}{\sin 20^\circ} = c$$

$$48. \quad X = 29^\circ \quad x = 18 \quad \tan 61^\circ = \frac{z}{18}$$

$$Y = 90^\circ \quad y = \frac{32.5}{37.1} \quad \cos 61^\circ = \frac{18}{z}$$

$$Z = 61^\circ \quad z = 32.5$$

$$93. \quad e^{5x} = 24$$

$$\ln e^{5x} = \ln 24$$

$$5x = \ln 24$$

$$x = \frac{\ln 24}{5}$$

$$\approx 0.636$$

$$94. \quad 2e^{x-7} = 6 = 0$$

$$2e^{x-7} = 6$$

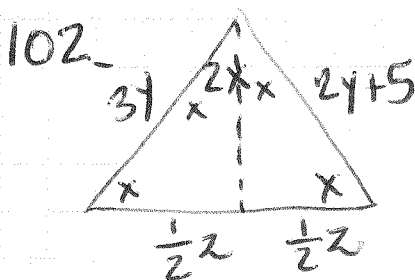
$$e^{x-7} = 3$$

$$\ln e^{x-7} = \ln 3$$

$$x-7 = \ln 3$$

$$x = (\ln 3) + 7$$

$$\approx 8.10$$



$$\frac{1}{2} z = (2y+5) \sqrt{2}$$

$$2y+5 = \frac{1}{2} z (\sqrt{2})$$

$$5y = 2y+5 \quad y = 5$$

$$15 = \frac{1}{2} z \sqrt{2}$$

$$30 = z \sqrt{2}$$

$$\frac{\sqrt{2}}{\sqrt{2}} \cdot \frac{30}{\sqrt{2}} = z$$

$$z = \frac{30\sqrt{2}}{2} = \frac{15\sqrt{2}}{1} \quad \boxed{B}$$