SECTION 9.1
#15, 17, 19, 22, 33, 35, 43, 45, 51, 55

BEN WILSON
PER 2
3/6/20

15) $\pm\sqrt{196}$

$\pm\sqrt{2\cdot7\cdot7\cdot7}$

$\pm 2\cdot7$

$\boxed{\pm 14}$

196 = 2 · 98; 98 = 2 · 49; 49 = 7 · 7

17) $\pm\sqrt{2500}$

$\pm\sqrt{2\cdot2\cdot5\cdot5\cdot5\cdot5}$

$\pm 2\cdot5\cdot5$

$\boxed{\pm 50}$

2500 = 25 · 100; 25 = 5 · 5; 100 = 10 · 10; 10 = 2 · 5; 10 = 2 · 5

19) $\sqrt{\frac{49}{576}}$

$\frac{\sqrt{49}}{\sqrt{576}}$

$\frac{\sqrt{7\cdot7}}{\sqrt{2\cdot2\cdot2\cdot2\cdot3\cdot3}}$

$\frac{7}{2\cdot2\cdot2\cdot3}$

$\boxed{\frac{7}{24}}$

576 = 2 · 288; 288 = 2 · 144; 144 = 12 · 12; 12 = 6 · 2; 12 = 2 · 6; 6 = 2 · 3; 6 = 2 · 3

22) $\pm\sqrt{4.84}$

$\pm\sqrt{4\frac{84}{100}}$

$\pm\sqrt{\frac{484}{100}}$

$\pm\frac{\sqrt{484}}{\sqrt{100}}$

$\pm\frac{\sqrt{2\cdot2\cdot11\cdot11}}{\sqrt{2\cdot2\cdot5\cdot5}}$

$\pm\frac{8.11}{8.5}$

$\pm\frac{11}{5}$

$\boxed{\pm 2.2}$

484 = 4 · 121; 4 = 2 · 2; 121 = 11 · 11

33) $28-(\sqrt{144})^2$

$28-144$

$\boxed{-116}$

35) $10-4\sqrt{\frac{1}{16}}$

$10-4\left(\frac{1}{4}\right)$

$10-1$

$\boxed{9}$

37) $8\sqrt{8.41}+1.8$

$8\sqrt{8\frac{41}{100}}+1.8$

$8\sqrt{\frac{841}{100}}+1.8$

$8\left(\frac{29}{10}\right)+1.8$

$8(2.9)+1.8$

$23.2+1.8$

$\boxed{25}$

30 × 30 = 00 + 900 = 900 ↑ TOO BIG

29 × 29 = 261 + 580 = 841

8 × 2.9 = 23.2

43) $\frac{4z^2}{4}=\frac{144}{4}$

$\sqrt{z^2}=\pm\sqrt{36}$

$\boxed{z=\pm 6}$

45) $\frac{0.25r^2}{0.25}=\frac{49}{0.25}$

$\sqrt{r^2}=\pm\sqrt{196}$

$\boxed{r=\pm 14}$

#51, 55

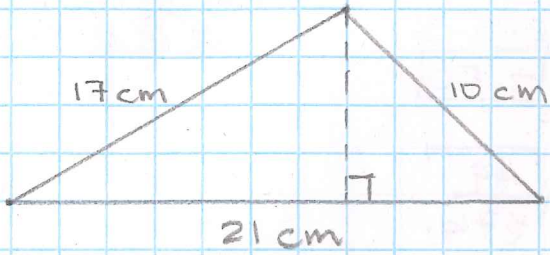
51) $K = \frac{v^2}{2}$ v = SPEED OF THE APPLE (IN m/SEC)
K = ENERGY (IN JOULES)

$(2)(32) = \frac{v^2}{2}(2)$

$\pm\sqrt{64} = \sqrt{v^2}$

$v = \pm 8$ THE APPLE IS TRAVELING 8m/SEC.

55) $A = \sqrt{s(s-21)(s-17)(s-10)}$ $s = \frac{1}{2}P$



$A = \sqrt{24(24-21)(24-17)(24-10)}$

$A = \sqrt{24(3)(7)(14)}$

$A = \sqrt{2\cdot2\cdot2\cdot3\cdot7\cdot7}$

$A = 2\cdot2\cdot3\cdot7$

$A = 84\,cm^2$

$P = s_1 + s_2 + s_3$

$P = (17) + (10) + (21)$

$P = 48\,cm$

$s = \frac{1}{2}P$

$s = \frac{1}{2}(48)$

$s = 24$