

Sample Test 3 solutions

① F ② T ③ F, no solution ④ T ⑤ F, $x=0$ ⑥ $(-3, 1/3)$

⑦ 38 ft ⑧ $60ft^2$ ⑨ 9 hours ⑩ \$96 ⑪ .55 gall

⑫ $t = \frac{4}{c-3}$ ⑬ a) $x=1$ b) no solution c) $7B/5$ d) 1 or $-3/2$

e) $x \geq -1, [-1, \infty)$ f) $y = 1/4, 3$ g) No solution - you get $r=0$ but doesn't check
 h) $a = 0, 5, -5$ i) $r = -2$... you get $x = -2 + x = -3$ but $x = -3$ doesn't check
 j) $(-\frac{1}{2}, \frac{15}{2})$

⑭ a) Find t when $s = 320$: $-16t^2 + 64t + 260 = 320$

$$-16t^2 + 64t - 60 = 0$$

$$-4(4t^2 - 16t + 15) = 0$$

$$-4(2t-5)(2t-3) = 0 \Rightarrow t = \frac{5}{2} \text{ sec}, \frac{3}{2} \text{ sec}$$

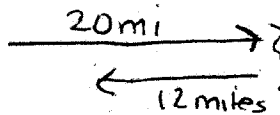
b) Hits ground when $s = 0$

$$-16t^2 + 64t + 260 = 0$$

$$-4(4t^2 - 16t - 65) = 0$$

$$-4(2t+5)(2t-13) = 0 \Rightarrow t = \frac{5}{2} \text{ sec}, \frac{13}{2} \text{ sec}$$

⑮



} same time

let $r =$ rate home

	r	t	dist
to home	$r+4$	$\frac{20}{r+4}$	20
to beach	r	$\frac{12}{r}$	12

Same time

$$\frac{20}{r+4} = \frac{12}{r}$$

$$20r = 12(r+4)$$

$$20r = 12r + 48$$

$$8r = 48$$

$$r = 6$$

so rate on way to beach is $r+4 = 6+4 = 10$ mph

⑯

let $t =$ # tens
 $2t-1 =$ # fives

Amount money = \$115

$$10t + 5(2t-1) = 115$$

$$20t - 5 = 115$$

$$20t = 120$$

$$t = 6$$

She has 6 tens.

⑰

let $x =$ amt invested at 1%
 then $6000 - x$ (the rest) is invested at 2%

Amt earned = \$95

$$.01x + .02(6000-x) = 95 \quad \text{mult by 100}$$

$$x + 2(6000-x) = 9500$$

$$-x + 12000 = 9500$$

$$-x = -2500$$

$$x = 2500$$

\$2500 invested at 1%

\$3500 invested at 2%