Practice from last Class (§1.5 p56)

Section 10

Th Jan 20

79.) -4

81.) 4

85.) $\pm 2\sqrt{2}$, $\pm\sqrt{5}$

89.) $\pm 3\sqrt{3}$, $\pm 2\sqrt{2}$

91.) $-1, 0, 3$

Jan 20, 2011

§1.6 Modelling W/ equations

See text examples for ones different from class todays.

Exercises from 1.6 p68.

#1.) n = first #

$n+1$ = 2nd #

$n+2$ = 3rd #

Sum = $n + n+1 + n+2 = \boxed{3n+3}$

↑

want

#11.)

In general:

$$\text{Concentration} = \frac{\text{total amt of pure substance}}{\text{total amt of solution}} \quad (\star\star)$$

$$C(x) = \frac{25+0}{3+x} = \boxed{\frac{25}{3+x}}$$

#19.) Simple interest formula:

For compounded ONCE a year at a rate of r (as a decimal)

$$A = P(1+r)^t$$

A = accum amount

P = principal

t = time in years

Find r so interest is 262.50 after t → 1 year of investing $3500 ← P

⇒ means balance $A = 3500 + 262.50$

$= \$3762.50 = A$

$$\Rightarrow 3762.5 = 3500(1+r)^1$$

$$\boxed{\frac{3762.5}{3500} - 1 = r}$$

#27.) in pairs

Solution: 40.

27.) Want: current age of star. ~~S~~ S

Know there's a relation to age of her child.

Let current age of child be C.

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7 years ago: $S-7 = 11(C-7)$

current: $S = 4C$

Substitute!

↳ $4C-7 = 11C-77$

$70 = 7C$

$10 = C$

⇒ **S = 40 years old**

In general:

0.) Identify the desired quantity.

1.) Define CLEARLY variables and their meanings.

2.) Write equations involving known quantities and desired quantity.

3.) Solve!

Next: Geometry problems:

34.) (a) $A_{\triangle} = \frac{1}{2}(\text{base})(\text{height})$ want: y

$A_{\square} = (\text{side})^2$

w

$A_{\text{total}} = 120 = \frac{1}{2}y^2 + y^2$

$120 = \frac{3}{2}y^2$

$\frac{2}{3}(120) = y^2$

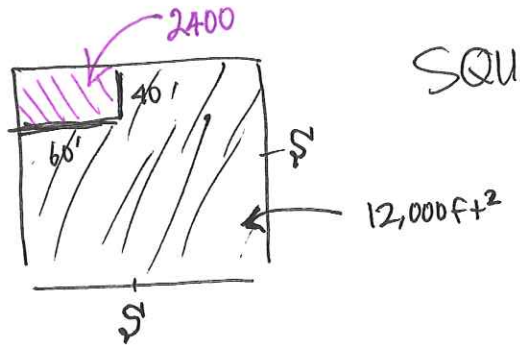
$80 = y^2$

$\pm\sqrt{80} = y$

16.5

$4\sqrt{5}\text{ in} = y$

37.)



SQUARE

Want: Dimension of lot S

$A_{\text{total}} = 12{,}000 + 2400$ (picture)

$A_{\text{total}} = S^2$

$S^2 = 14{,}400\ \text{ft}^2$

$S = 120\ \text{ft}$