

BE - Alg. 2 & Precalc TUESDAY 9-22-09

REAL
ACT
2ND
PT 2

- ① The depth of A pond is 180 cm
And is being reduced by 1 cm per week.
The depth of A second pond is
160 cm And is being reduced by
 $\frac{1}{2}$ cm per week. If the depths of
both ponds continue to be reduced at
these constant rates, in about how
many weeks will the ponds have the
same depth?

ANS

Let w = weeks d = depth

$$m = \text{Slope} \Rightarrow \frac{\text{cm}}{\text{week}}$$

$$b = \text{STARTING depth} = \text{cm}$$

Skeleton MAKE
UNITS
WORK
"per" = slope

$$\therefore \frac{?}{?} = \frac{\text{cm}}{\text{WK}} \frac{?}{?} + \text{cm}$$

$$\text{cm} = \frac{\text{cm}}{\text{WK}} \cdot \text{WK} + \text{cm}$$

$$\begin{cases} d = -1w + 180 \\ \textcircled{d} = -\frac{1}{2}w + 160 \end{cases}$$

$$\begin{array}{r} -w + 180 = -\frac{1}{2}w + 160 \\ +w \quad -160 \quad +w \quad -160 \end{array}$$

$$20 = \frac{1}{2}w$$

$$\therefore \boxed{w = 40 \text{ weeks}}$$

Classwork/Homework Tuesday Sept. 22, 2009

Date _____ Period _____

Solve each equation by factoring.

1) $m^2 + 5m = -4$

2) $x^2 = 14 + 5x$

3) $p^2 + 18 = -9p$

4) $n^2 + 5 = -6n$

5) $2x^2 = 7x - 6$

6) $6n^2 - 2 = -n$

7) $3k^2 - 3 = -8k$

8) $9a^2 - 2 = -3a$

9) $2x^2 - 3x = -1$

10) $3x^2 = 8x + 3$

11) $3n^2 + 2 = -5n$

12) $2m^2 = 5m + 3$

13) $2n^2 = 5n - 3$

14) $2b^2 = -3 - 7b$

15) $15r^2 = -11r + 12$

16) $3m^2 = -14m + 5$

17) $5x^2 - 9 = -12x$

18) $3n^2 = 10 - 13n$

19) $5b^2 - 6 = -13b$

20) $2v^2 - 1 = -v$