

SECTION 6.4 (RED)

#15, 17, 21, 22, 23, 30, 31

BEN WILSON

PER 1

12/13/19

15) 24 SONGS TO 78 SONGS

INCREASE

$$P_oC = \frac{A_oC}{O.A.} \quad \begin{array}{r} 78 \\ -24 \\ \hline 54 \end{array}$$

$$P_oC = \frac{54}{24}$$

$$P_oC = 2.25$$

 $P_oC = 225\%$ INCREASE17) 72 PAPER CLIPS TO
63 PAPER CLIPSDECREASE

$$P_oC = \frac{A_oC}{O.A.} \quad \begin{array}{r} 72 \\ -63 \\ \hline 9 \end{array}$$

$$P_oC = \frac{9}{72}$$

$$P_oC = 0.125$$

 $P_oC = 12.5\%$ DECREASE21) LAST WEEK

LEVEL 2 = 32 MIN

TODAY

LEVEL 2 = 28 MIN

$$P_oC = \frac{A_oC}{O.A.} \quad \begin{array}{r} 32 \\ -28 \\ \hline 4 \end{array}$$

$$P_oC = \frac{4}{32}$$

 $P_oC = 12.5\%$ DECREASE

22) ESTIMATE : 20 LBS

ACTUAL : 16 LBS

$$P_oE = \frac{A_oE}{A.A.} \quad \begin{array}{r} 20 \\ -16 \\ \hline 4 \end{array}$$

$$P_oE = \frac{4}{16}$$

$$P_oE = 0.25$$

 $P_oE = 25\%$ ERROR OVER

23) ESTIMATE : 3200 YEARS OLD

ACTUAL : 3600 YEARS OLD

$$a) P_oE = \frac{A_oE}{A.A.}$$

$$P_oE = \frac{400}{3600} \quad \begin{array}{r} 3600 \\ -3200 \\ \hline 400 \end{array}$$

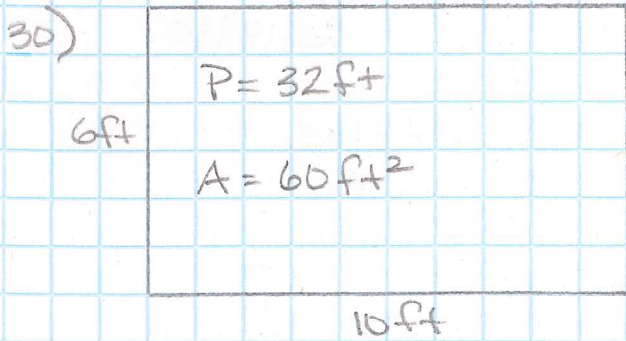
 $P_oE = 11.1\%$ ERROR UNDER

b) WE WOULD BE LOOKING FOR ANOTHER ERROR WITH A DIFFERENCE OF 400 BUT IN THE OTHER DIRECTION.

$$3600 + 400$$

4000 ← AN ESTIMATE OF 4000 WOULD BE AN 11.1% ERROR OVER THE ACTUAL AMOUNT.

#30, 31



IF DOUBLED $P = 64\text{ft}$
 $A = 240\text{ft}^2$

a) $P_oC = \frac{A_oC}{O.A.}$

64
- 32
32

$P_oC = \frac{32}{32}$

$P_oC = 1$

$P_oC = 100\%$ INCREASE

b) $P_oC = \frac{A_oC}{O.A.}$

240
- 60
180

$P_oC = \frac{180}{60}$

$P_oC = 3$

$P_oC = 300\%$ INCREASE

31)

Box A	Box B
20.4oz ≈ 21oz	21.5oz ≈ 21oz

A 2.5% ERROR IS ACCEPTABLE.

Box A DOES NOT MEET THE ACCEPTABLE ERROR AMOUNT.
 Box B DOES MEET THE ACCEPTABLE ERROR AMOUNT.

$a = p\% \times w$

$a = 2.5\% \times 21$

$a = 0.025 \times 21$

$a = 0.525$

21.000

+ 0.525

21.525

↑

MAX AMOUNT
OF ACCEPTABLE
RANGE

0.99
21.000

- 0.525

20.475

↑

MIN AMOUNT
OF ACCEPTABLE
RANGE