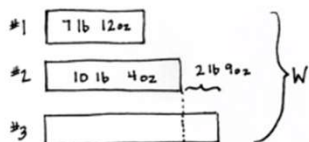


Multi-step Measurement Worksheets (Customary Units)

3. One pumpkin weighs 7 pounds 12 ounces. A second pumpkin weighs 10 pounds 4 ounces. A third pumpkin weighs 2 pounds 9 ounces more than the second pumpkin. What is the total weight of all three pumpkins?



The total weight of all 3 pumpkins is 30 pounds 13 ounces.

Solution A

$$\begin{array}{r}
 10 \text{ lb } 4 \text{ oz} \xrightarrow{+2 \text{ lb } 9 \text{ oz}} 12 \text{ lb } 13 \text{ oz} \\
 7 \text{ lb } 12 \text{ oz} \xrightarrow{+10 \text{ lb } 4 \text{ oz}} 17 \text{ lb } 16 \text{ oz} \\
 \xrightarrow{+12 \text{ lb } 13 \text{ oz}} 30 \text{ lb } 13 \text{ oz} \\
 W = 30 \text{ lb } 13 \text{ oz}
 \end{array}$$

Solution B

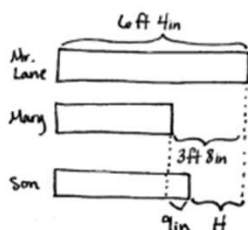
$$\begin{aligned}
 10 \text{ lb } 4 \text{ oz} + 2 \text{ lb } 9 \text{ oz} &= 12 \text{ lb } 13 \text{ oz} \\
 W &= 7 \text{ lb } 12 \text{ oz} + 10 \text{ lb } 4 \text{ oz} + 12 \text{ lb } 13 \text{ oz} \\
 &= 29 \text{ lb } 29 \text{ oz} \\
 &\quad \quad \quad \uparrow \\
 &\quad \quad \quad 16 \text{ oz } 13 \text{ oz} \\
 W &= 30 \text{ lb } 13 \text{ oz}
 \end{aligned}$$

Solution C

$$\begin{aligned}
 2 \times (10 \text{ lb } 4 \text{ oz}) \\
 = 2 \times (10 \text{ lb} + 4 \text{ oz}) \\
 = (2 \times 10 \text{ lb}) + (2 \times 4 \text{ oz}) \\
 = 20 \text{ lb} + 8 \text{ oz}
 \end{aligned}$$

$$\begin{aligned}
 20 \text{ lb } 8 \text{ oz} + 2 \text{ lb } 9 \text{ oz} &= 22 \text{ lb } 17 \text{ oz} \\
 &\quad \quad \quad \uparrow \\
 &\quad \quad \quad 16 \text{ oz } 1 \text{ oz} \\
 &= 23 \text{ lb } 1 \text{ oz} \\
 23 \text{ lb } 1 \text{ oz} + 7 \text{ lb } 12 \text{ oz} &= 30 \text{ lb } 13 \text{ oz} \\
 W &= 30 \text{ lb } 13 \text{ oz}
 \end{aligned}$$

4. Mr. Lane is 6 feet 4 inches tall. His daughter, Mary, is 3 feet 8 inches shorter than her father. His son is 9 inches taller than Mary. How many inches taller is Mr. Lane than his son?



$$\begin{aligned}
 H &= 2 \text{ ft } 11 \text{ in} \\
 &= 24 \text{ in} + 11 \text{ in} \\
 &= 35 \text{ in}
 \end{aligned}$$

Mr. Lane is 35 inches taller than his son.

Solution A

$$\begin{aligned}
 3 \text{ ft } 8 \text{ in} - 9 \text{ in} \\
 \quad \quad \quad \uparrow \\
 \quad \quad \quad 2 \text{ ft } 12 \text{ in} \\
 2 \text{ ft } 20 \text{ in} - 9 \text{ in} &= 2 \text{ ft } 11 \text{ in}
 \end{aligned}$$

Solution B

$$\begin{aligned}
 6 \text{ ft } 4 \text{ in} - 3 \text{ ft } 8 \text{ in} \\
 \quad \quad \quad \uparrow \\
 \quad \quad \quad 5 \text{ ft } 12 \text{ in} \\
 5 \text{ ft } 11 \text{ in} - 3 \text{ ft } 8 \text{ in} &= 2 \text{ ft } 8 \text{ in (Mary)} \\
 2 \text{ ft } 8 \text{ in} + 9 \text{ in} &= 2 \text{ ft } 17 \text{ in} \\
 &\quad \quad \quad \uparrow \\
 &\quad \quad \quad 12 \text{ in } 5 \text{ in} \\
 &= 3 \text{ ft } 5 \text{ in (Son)} \\
 6 \text{ ft } 4 \text{ in} - 3 \text{ ft } 5 \text{ in} &= 2 \text{ ft } 11 \text{ in} \\
 \quad \quad \quad \uparrow \\
 \quad \quad \quad 5 \text{ ft } 12 \text{ in}
 \end{aligned}$$