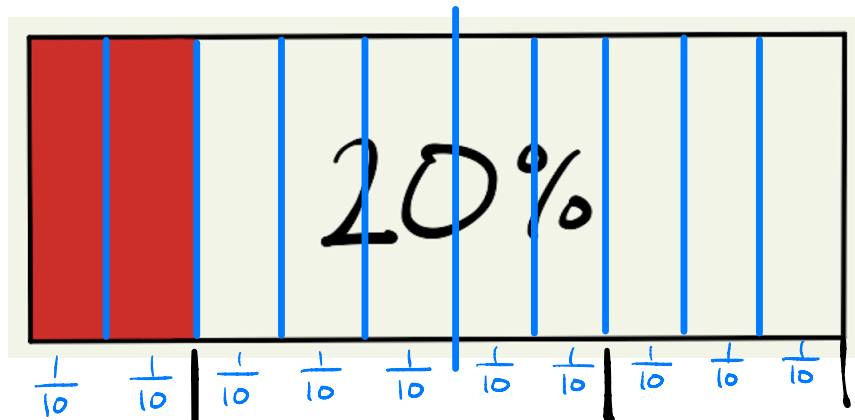


How Much Battery? Worksheet

Estimate how long it will take this battery to fully charge.



$$20\% = \frac{2}{10}$$

30 min

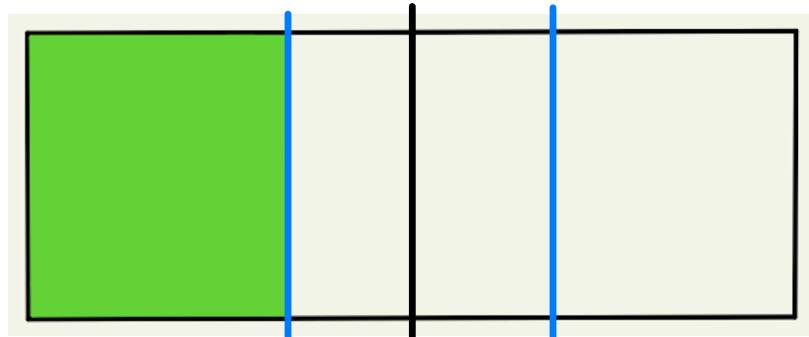
How long does this take?

$$\frac{1}{10} \text{ takes } \frac{30}{5} = 6 \text{ minutes}$$

$$\text{So } \frac{3}{10} \text{ takes } 3 \times 6 = 18 \text{ min}$$

$$\text{Takes } 30 + 18 = 48 \text{ min}$$

Estimate how long it will take this battery to fully charge.

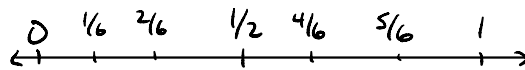


I think it's $\frac{1}{3}$ charged

?
30 min
This $\frac{1}{2}$ of $\frac{1}{3}$

$$\frac{1}{2} \times \frac{1}{3} = \frac{1}{6}$$

How long for $\frac{1}{6}$ to charge?

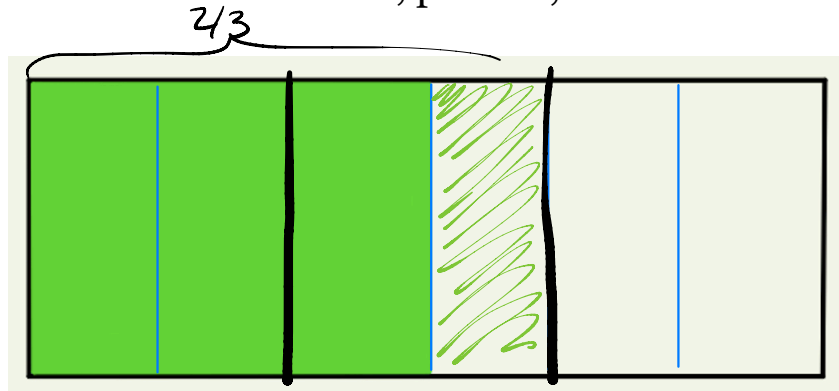


3 pieces of size $\frac{1}{6}$ in $\frac{1}{2}$.
Each takes 10 min to charge

$$\text{Takes } 10 + 30 = 40 \text{ min}$$

Estimate how much charge this battery will have after 10 minutes.

Express your answer as a fraction, percent, and as a drawing.

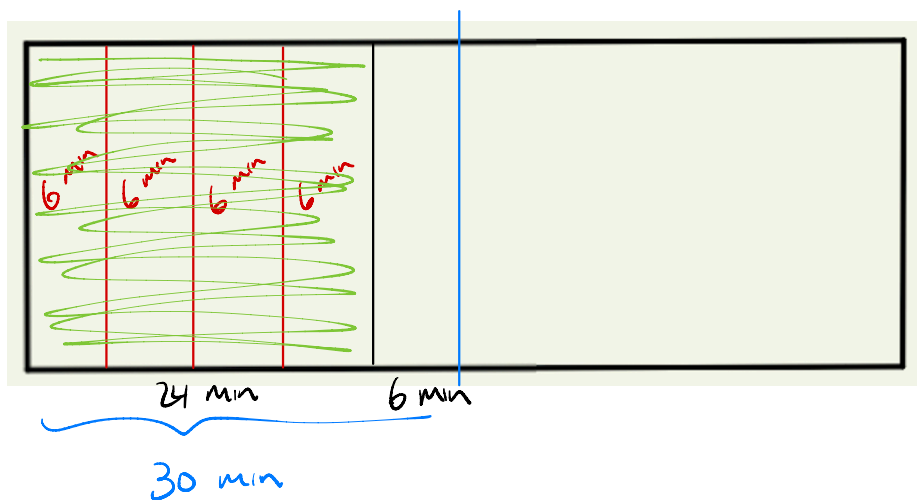


I know from the last problem that the battery will charge $\frac{1}{6}$ in 10 min. So need to add $\frac{1}{6}$

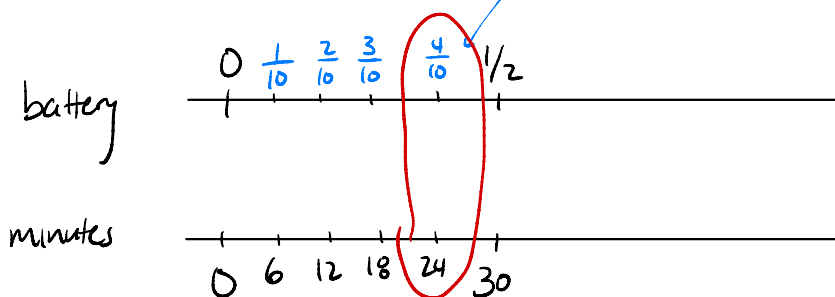
$$\text{So we have } \frac{4}{6} = \frac{2}{3}$$

$$\frac{1}{3} \approx 33\% \quad \text{so } \frac{2}{3} \approx 66\%$$

Estimate how much charge this battery will have after 24 minutes.
Express your answer as a fraction, percent, and as a drawing.



How much does the battery charge in 6 min?
each one is $\frac{1}{5}$ of $\frac{1}{2}$. So there are

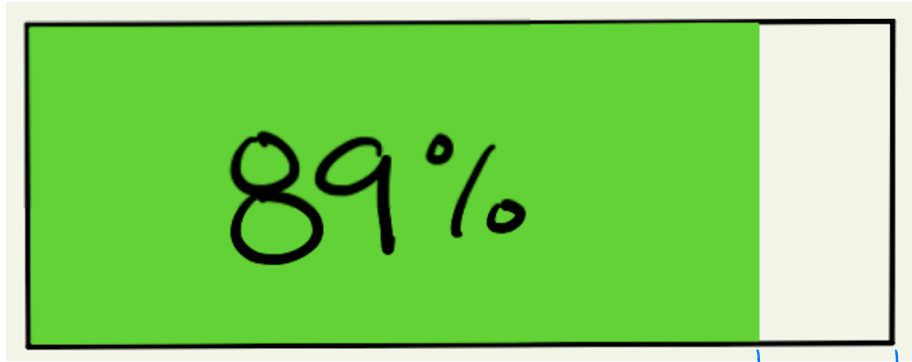


10 in one whole, they are each $\frac{1}{10}$

$$\frac{4}{10} = \frac{2}{5}$$

$$\frac{1}{5} = 20\% \quad \text{so} \quad \frac{2}{5} = 40\%$$

Estimate how long it will take this battery to fully charge.



$\frac{1}{10}$ charges in 6 min. We already figured out that takes 6 min to charge