

# Leaky Faucet

# T1

Jan estimates that the faucet in her kitchen drips at a rate of 1 drop every 2 seconds.

1. Estimate how many times the faucet drips in a week.  
Show your calculations.

302,400 times

$$60 \text{ sec.} = 1 \text{ min.}$$

$$60 \text{ min} = 1 \text{ hr.}$$

$$24 \text{ hrs} = 1 \text{ day}$$

$$7 \text{ days} = 1 \text{ week}$$

$$60 \times 60 \times 24 \times 7 = 604800$$

$$604800 \div 2 = 302400 \text{ drops}$$

↑  
because  
of rate



Jan estimates that approximately 575 drops fill a 100 milliliter bottle.

2. Estimate how much water her leaky faucet wastes in a year. ~2742300 milliliters  
Show how you figured it out.

$$365 \text{ days} = 1 \text{ year}$$

$$\frac{60 \times 60 \times 24 \times 365}{2} = 15768000 \text{ drops per year}$$

$$15768000 \div 575 = 27422.608...$$

About 27423 of 100 millimeter bottles would be filled.

$$27423 \times 100 = \underline{2742300} \text{ milliliters}$$

# Leaky Faucet

# T2

Jan estimates that the faucet in her kitchen drips at a rate of 1 drop every 2 seconds.

1. Estimate how many times the faucet drips in a week.  
Show your calculations.

$$h = 3600 \text{ s}$$

$$d = 86400 \text{ s}$$

$$w = 604800$$

$$\# \text{ drops} = \frac{604800}{2} = 302400$$

302,400



Jan estimates that approximately 575 drops fill a 100 milliliter bottle.

2. Estimate how much water her leaky faucet wastes in a year.  
Show how you figured it out.

27.4 liters

$$365d = 31536000 \text{ s}$$

$$= 15768000 \text{ drops}$$

$$= 27422.6 \text{ bottles } 100 \text{ mL}$$

$$= 27.4 \text{ L}$$

Jan estimates that the faucet in her kitchen drips at a rate of 1 drop every 2 seconds.

1. Estimate how many times the faucet drips in a week.  
Show your calculations.

302,400 drops



1 minute      30 drops  
                         60

60 minutes      1800 drops  
                         24

24 hours      43200  
                         7

Jan estimates that approximately 575 drops fill a 100 milliliter bottle.

2. Estimate how much water her leaky faucet wastes in a year.  
Show how you figured it out.

2742 liters

24 hrs      43200

365 days

43200  
365

15,768,000 / 575 =

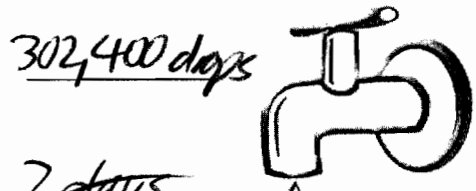
27423  
x 100 bottles  
100 mills  
/ 1000 liters

## Leaky Faucet

Jan estimates that the faucet in her kitchen drips at a rate of 1 drop every 2 seconds.

1. Estimate how many times the faucet drips in a week.  
Show your calculations.

$$\frac{1 \text{ drop}}{2 \text{ sec}} \times \frac{60 \text{ sec}}{1 \text{ min}} \times \frac{60 \text{ min}}{1 \text{ hr}} \times \frac{24 \text{ hr}}{1 \text{ day}} \times \frac{7 \text{ days}}{1 \text{ week}} = \frac{604800 \text{ drops}}{2 \text{ weeks}} = \frac{302400 \text{ drops}}{1 \text{ week}}$$



$$\begin{array}{r} \phantom{0} \times 60 \\ \underline{3600} \\ \phantom{0} \times 24 \\ \underline{14400} \\ + 7200 \\ \hline 486400 \\ \phantom{0} \times 7 \\ \hline 604800 \\ \hline 302400 \\ 2 \overline{) 604800} \end{array}$$

Jan estimates that approximately 575 drops fill a 100 milliliter bottle.

2. Estimate how much water her leaky faucet wastes in a year.  
Show how you figured it out.

$$\frac{302400 \text{ drops}}{1 \text{ week}} \times \frac{52 \text{ weeks}}{1 \text{ year}} = \frac{2224800 \text{ drops}}{1 \text{ year}}$$

$$\begin{array}{r} \phantom{0} \times 52 \\ \underline{1604800} \\ + 162000 \\ \hline 2224800 \end{array}$$

$$\frac{2224800 \text{ drops}}{4 \text{ mL}} = \frac{575 \text{ drops}}{100 \text{ mL}} = \frac{23 \text{ drops}}{4 \text{ mL}}$$

$$5 \overline{) 115} \\ \underline{52} \\ 072 \\ \underline{35} \\ 25$$

$$5 \overline{) 115} \\ \underline{102} \\ 15$$

$$\begin{array}{r} 13 \\ \times \\ \hline (2224800)(4) = 23x \\ \hline 8899200 = 23x \end{array}$$

$$23 \overline{) 386921.7391} \\ \underline{46} \\ 8899200 \\ \underline{698} \\ 199$$

$$x = 386921.739 \text{ mL} \approx 386922 \text{ mL}$$

## Leaky Faucet

Jan estimates that the faucet in her kitchen drips at a rate of 1 drop every 2 seconds.

1. Estimate how many times the faucet drips in a week.  
Show your calculations.

$$60 \text{ sec} = 1 \text{ min}$$

$$60 \text{ min} = 1 \text{ h}$$

$$3,600 \text{ sec} = 1 \text{ h}$$

$$24 \text{ h} = 1 \text{ d}$$

$$7 \text{ d} = 1 \text{ w}$$

$$1 \text{ w} = 604800 \text{ sec}$$

$$\frac{604800}{2} = 302400$$

times.



1 dro pevery  
2 sec

$$\frac{604800}{2} = 302400$$

Jan estimates that approximately 575 drops fill a 100 milliliter bottle.

2. Estimate how much water her leaky faucet wastes in a year.  
Show how you figured it out.

$$2734747.83 \text{ milliliters}$$

302400 drops a week

52w - 1 year

1 year - 15724800 drops

575 drops = 100 milliliters

$$\frac{15724800}{575} = 27347.47 \text{ (100)}$$

milliliters

$$= 2734747.82$$