

Warm up:

$$6 \overline{) 18} \quad r = \frac{d}{t} \quad \boxed{d = rt}$$

1) A bus is traveling at a speed of 60mi/h. How long will it take for it to go 210mi?

$$\frac{210}{60} = 3 \frac{3}{6} = 3 \frac{1}{2} \text{ h} \quad \begin{matrix} d = rt \\ 210 = 60t \\ \frac{210}{60} = \frac{60t}{60} \end{matrix}$$

2) Frank ran 26mi in 5h. What was his average speed for the run?

$$\frac{26}{5} = \frac{r \cdot 5}{5} \quad r = 5.2 \text{ mi/h}$$

3) The eye's retina contains about 130 million light-sensitive cells. Write this number in scientific notation.

$$130,000,000$$

$$1.3 \times 10^8$$

$$\begin{array}{r} 5.2 \\ 5 \overline{) 26.0} \\ \underline{-25} \\ 10 \\ \underline{-10} \\ 0 \end{array}$$

Scientific Notation on the Calculator

5.7e9

5.7×10^9

$6.25e7$

6.25×10^7

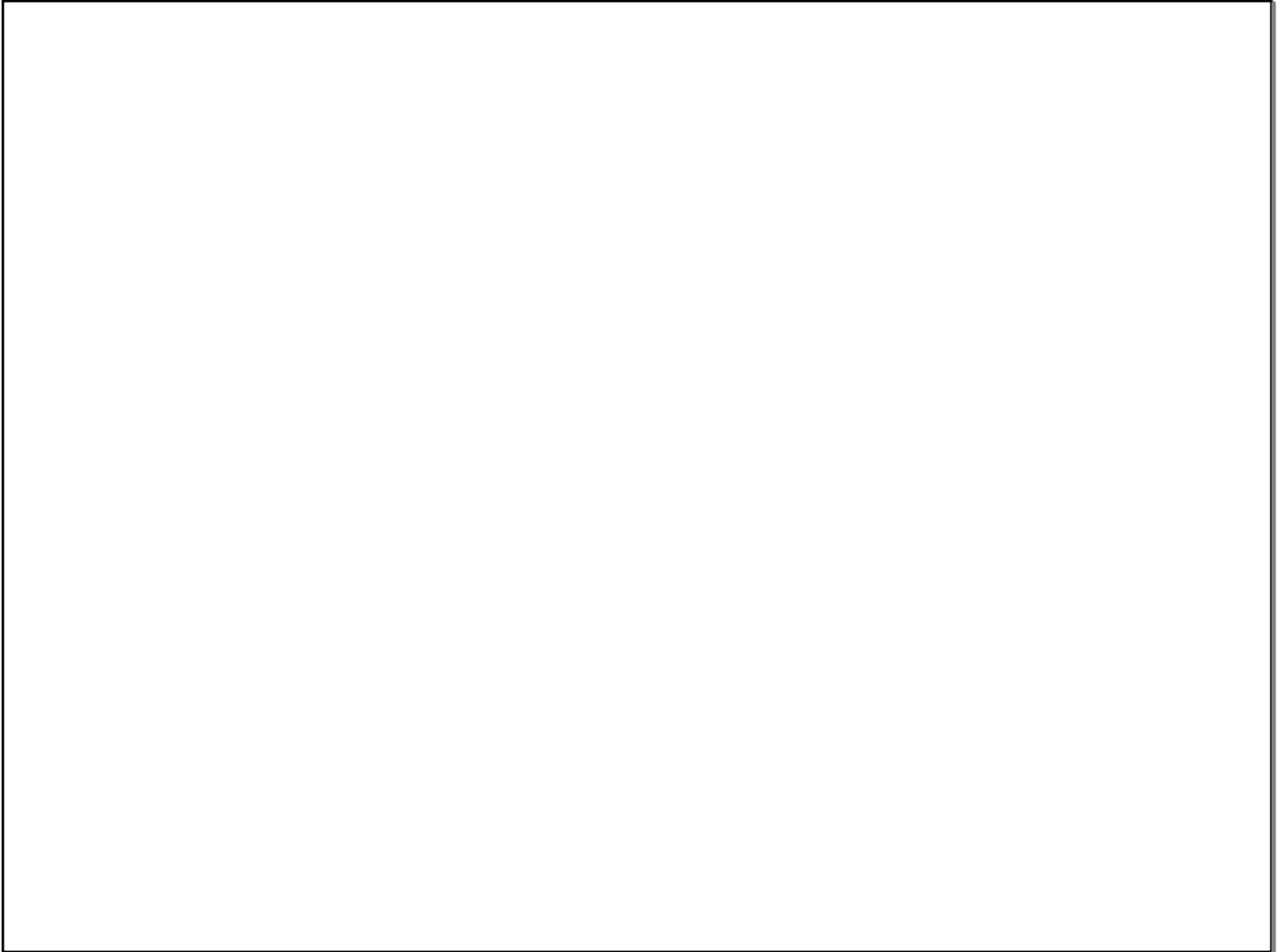
$8e3$

8×10^3

3.2e12

3.2 × 10¹²

November 1, 2021



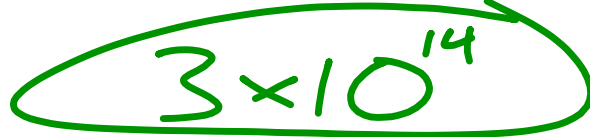
$$4(3 \times 10^9)$$

$$12 \times 10^9$$

$$1.2 \times 10^{10}$$

$$\frac{6 \times 10^{14}}{2}$$

2



3×10^{14}

A fast food restaurant makes 3.7×10^7 cheeseburgers every year. How many cheeseburgers do they make in 5 years?

$$5(3.7 \times 10^7)$$
$$18.5 \times 10^7$$

$$\begin{array}{r} 3.7 \\ \times 5 \\ \hline 18.5 \end{array}$$

1.85×10^8 cheeseburgers

Light travels at 3×10^8 m/s. How many seconds does a light ray take to travel 9×10^6 m?

$$d = r t$$
$$\frac{9 \times 10^6}{3 \times 10^8} = \frac{\cancel{3 \times 10^8} t}{\cancel{3 \times 10^8}}$$
$$3 \times 10^{-2} = t$$
$$3 \times 10^{-2} \text{ s}$$

$$\frac{12}{3} = \frac{3t}{3}$$
$$\frac{4}{1} = \frac{t}{1}$$

- 1) A space ship traveled 9.5×10^6 m in 1.9×10^3 s. What was the average speed for the trip?
- 2) Elise's net worth is 1.2×10^9 dollars. This is three times as much as Matt's net worth. What is Matt's net worth?
- 3) The speed of light is 3×10^8 m/s. If the sun is 1.5×10^{11} m from earth, how many seconds does it take light to reach the earth?
- 4) A furniture company produces 5.2×10^4 chairs each year. How many chairs does the company produce every 8 year?

1) A space ship traveled 9.5×10^6 m in 1.9×10^3 s. What was the average speed for the trip?

$$d = r \cdot t$$
$$\frac{9.5 \times 10^6}{1.9 \times 10^3} = r \cdot \frac{1.9 \times 10^3}{1.9 \times 10^3}$$
$$5 \times 10^3 = r$$
$$5 \times 10^3 \text{ m/s}$$

2) Elise's net worth is 1.2×10^9 dollars. This is three times as much as Matt's net worth. What is Matt's net worth?

$$\frac{1.2 \times 10^9}{3} = \frac{3m}{3}$$

$$0.4 \times 10^9 = m$$

$$4 \times 10^8 \text{ dollars}$$

3) The speed of light is 3×10^8 m/s. If the sun is 1.5×10^{11} m from earth, how many seconds does it take light to reach the earth?

4) A furniture company produces 5.2×10^4 chairs each year. How many chairs does the company produce every 8 year?

Powers of numbers in scientific notation

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