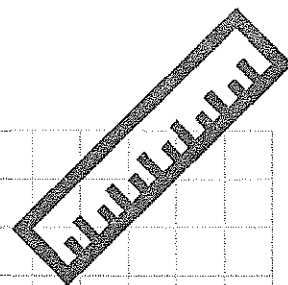
LENGTH

SOLUTIONS



Perform the following conversions. Show the work as demonstrated in class.

Use the following conversion factors:

12 in = 1 ft; 1 yd = 3 ft; 1 mi = 5280 ft; 1 ft = 0.3048 m; 1 rod = 16.5 ft; 1 ch = 4 rod;

1 in = 25.4 mm; 1 acre = 43560 ft²; 1 L = 0.264 gal; 1 L = 0.0353 ft³; 32 Khata = 1 acre

1. Convert 30 feet to inches

$$30 \text{ FT} \left(\frac{12 \text{ IN}}{1 \text{ FT}} \right) = 360 \text{ IN}$$

2. Convert 4001 inches to yards

$$4001 \text{ IN} \left(\frac{1 \text{ FT}}{12 \text{ IN}} \right) \left(\frac{1 \text{ YD}}{3 \text{ FT}} \right) = 111.1 \text{ YD}$$

3. Convert 234 yards to miles

$$234 \text{ YD} \left(\frac{3 \text{ FT}}{1 \text{ YD}} \right) \left(\frac{1 \text{ MI}}{5280 \text{ FT}} \right) = 0.133 \text{ MI}$$

4. Convert 345 meters to yards

$$345 \text{ M} \left(\frac{1 \text{ FT}}{0.3048 \text{ M}} \right) \left(\frac{1 \text{ YD}}{3 \text{ FT}} \right) = 377 \text{ YD}$$

5. Convert 0.00876 mi to meters

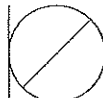
$$0.00876 \text{ MI} \left(\frac{5280 \text{ FT}}{1 \text{ MI}} \right) \left(\frac{0.3048 \text{ M}}{1 \text{ FT}} \right) = 14.1 \text{ M}$$

6. Convert 0.0468 feet to mm

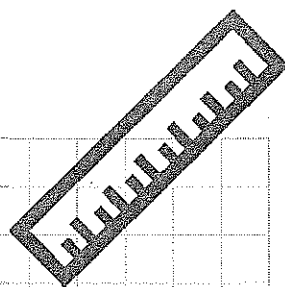
$$0.0468 \text{ FT} \left(\frac{12 \text{ IN}}{1 \text{ FT}} \right) \left(\frac{25.4 \text{ MM}}{1 \text{ IN}} \right) = 14.3 \text{ MM}$$

7. Convert 23.89 E4 cm to km

$$23.89 \text{ E4 cm} \left(\frac{1 \text{ M}}{100 \text{ CM}} \right) \left(\frac{1 \text{ KM}}{1000 \text{ M}} \right) = 2.389 \text{ KM}$$

LENGTH

SOLUTIONS



8. Convert 47.2 rods to feet

$$47.2 \text{ rods} \left(\frac{16.5 \text{ FT}}{1 \text{ ROD}} \right) = 779 \text{ FT}$$

9. Convert 0.00471 acres to ft²

$$0.00471 \text{ ACRE} \left(\frac{43560 \text{ FT}^2}{1 \text{ ACRE}} \right) = 205 \text{ FT}^2$$

10. Convert 50621 Khata to mi²

$$50621 \text{ KH} \left(\frac{1 \text{ ACRE}}{32 \text{ KH}} \right) \left(\frac{43560 \text{ FT}^2}{1 \text{ ACRE}} \right) \left(\frac{1 \text{ mi}}{5280 \text{ FT}} \right) \left(\frac{1 \text{ mi}}{5280 \text{ FT}} \right) = 2.4717 \text{ mi}^2$$

11. Convert 1.80 gal to liters

$$1.80 \text{ GAL} \left(\frac{1 \text{ L}}{0.264 \text{ GAL}} \right) = 6.82 \text{ L}$$

12. Convert 6.253 ft³ to gal

$$6.253 \text{ FT}^3 \left(\frac{0.264 \text{ GAL}}{0.0353 \text{ FT}^3} \right) = 46.76 \text{ GAL}$$

13. Convert 35 liters to in³

$$35 \text{ L} \left(\frac{0.0353 \text{ FT}^3}{1 \text{ L}} \right) \left(\frac{12 \text{ IN}}{1 \text{ FT}} \right) \left(\frac{12 \text{ IN}}{1 \text{ FT}} \right) \left(\frac{12 \text{ IN}}{1 \text{ FT}} \right) = 2100 \text{ IN}^3$$

14. Convert 1.234 E5 mm³ to gal

$$1.234 \text{ E}5 \text{ MM}^3 \left(\frac{1 \text{ IN}}{25.4 \text{ MM}} \right) \left(\frac{1 \text{ IN}}{25.4 \text{ MM}} \right) \left(\frac{1 \text{ IN}}{25.4 \text{ MM}} \right) \left(\frac{1 \text{ FT}}{12 \text{ IN}} \right) \left(\frac{1 \text{ FT}}{12 \text{ IN}} \right) \left(\frac{1 \text{ FT}}{12 \text{ IN}} \right) \left(\frac{0.264 \text{ GAL}}{0.0353 \text{ FT}^3} \right) = 0.03259 \text{ GAL}$$