

Conversions #4

- 1) A pool is filling up at a rate of 24 gallons per minute. If the pool is 12,000 gallons how many minutes will it take to fill up?

$$\frac{12,000}{24}$$

500 minutes

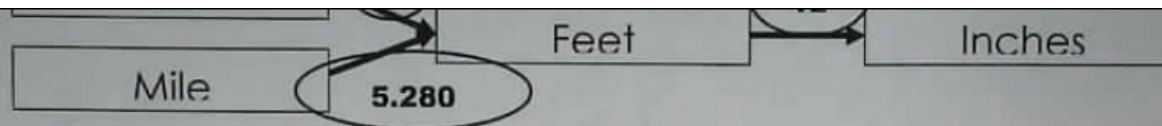
- 2) For the same pool as above, how many hours will it take?

$$\frac{500}{60} = 8.\bar{3} \text{ hours}$$

- 3) Convert 15 mph into feet per hour.

$$1 = 5280 \times 15 = 79,200$$





1) 180 ft into miles

.03 MILES

2) 18 miles into ft

95,040 ft

3) 16 yards into ft

48 ft

4) 20 yards into inches

720 in

5) 41 quarts into cups

164 cups

6) 23 gallons into pints

184 PINTS

7) 19,360 yards into miles

11 MILES

8) 5 miles into feet

26,400 ft

9) 13 gallons into cups

208 cups

10) 220 cups into quarts

55 QUARTS

11) 86 yards into inches

3096 in

12) 52,800 ft into miles

10 MILES

SHOW



13) 84 ft into yards 28 YARDS	14) 126 cups into pints 63 PINTS	15) 108 pints into quarts 54 QUARTS
16) 5 m into cm 500 cm	17) 2 cm into mm 20 mm	18) 3,000 g into kg 3 kg
19) 60 mm into cm 6 cm	20) 3000mL into L 3 L	21) 2,000 g into kg 2 g
22) 1 L into mL 1,000 mL	23) 2 m into cm 200 cm	24) 10 cm into mm 100 mm
25) 5,000 ml into L 5 L	26) 8 km into m 8,000 m	27) 9 kg into g 9,000 g
28) 1,000 m into km 1 km	29) 7 cm into mm 70 mm	30) 300 cm into m 3 m

SHOW





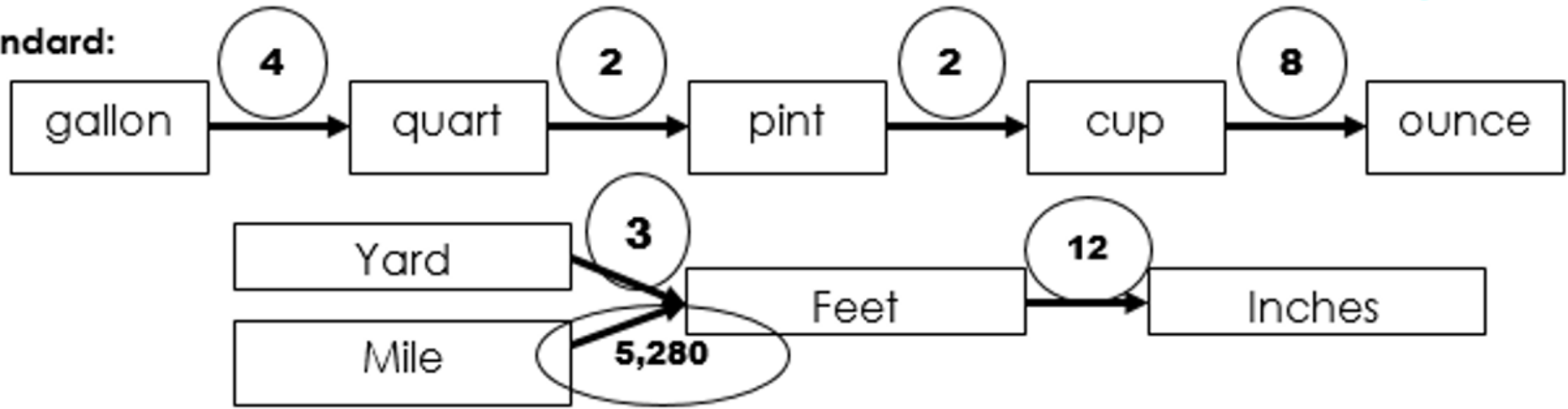
METRIC:

Kilo	<u>Hecto</u>	<u>Deka</u>	BASE	Deci	<u>Centi</u>	<u>Milli</u>
			Meter (m) Gram (g) Liter (L)			

BIG

SMALL.

Standard:



BIG → Small
HOURS → MINUTES
60

EXAMPLE 1: ENGLISH TO ENGLISH

Bob studied for 2.5 hours. How many minutes did he study for?

$$2.5 \text{ Hours} \times 60 \text{ MINUTES} = 150 \text{ MINUTES}$$

NO UNIT?
NO CREDIT!



PLAN

DAYS $\xrightarrow{24}$ HOURS $\xrightarrow{60}$ MINUTES $\xrightarrow{60}$ SECONDS

EXAMPLE 2: ENGLISH TO ENGLISH

How many seconds are in 1.4 days? START WITH WHAT IS GIVEN

$$1.4 \times 24 \times 60 \times 60 = 120,960 \text{ SECONDS}$$

DAYS HOURS MINUTES SECONDS



EXAMPLE 3: METRIC TO METRIC

K H D **(B)** D C m

A rattlesnake is 2.44 m long. How long is the snake in cm?

MOVE TWO SPOTS TO
THE RIGHT!

244 cm



EXAMPLE 4: METRIC TO METRIC

K H D (B) D C M

On a metric test, Erica mistakenly computed an answer as being 0.048 kl. The answer should be written in ml. How many milliliters are in 0.048 kiloliters? GIVEN

0.048000
48,000 mL

START AT KL
MOVE TO mL



PLAN: FEET $\xrightarrow{12}$ INCHES $\xrightarrow{2.54}$ CM \rightarrow mm

EXAMPLE 5: ENGLISH TO METRIC

FEET \rightarrow mm

If a ski pole is 3 feet in length, how long is the ski pole in mm? (Hint: 2.54 cm = 1 inch)

START WITH GIVEN

$$3 \text{ ft} \times 12 \text{ inches} \times 2.54 \text{ cm} = 91.44 \text{ cm} = \boxed{914.4 \text{ mm}}$$

CONVERT CM TO MM

PLAN: km $\xrightarrow{.62}$ MILES

EXAMPLE 6: METRIC TO ENGLISH

Every year the New York City Marathon, which is 42 km long, is run by thousands of people. How many miles are in 42 km? Round to the nearest hundredth. (Hint: 1 km = .62 miles)

GIVEN

$$42 \text{ km} \times .62 \text{ MILES} = 26.04 \text{ MILES}$$



PLAN MILES $\xrightarrow{5280}$ FEET

HOURS $\xrightarrow{60}$ MINUTES $\xrightarrow{60}$ SECONDS

EXAMPLE 7: RATE

A cyclist travels 56 miles in 4 hours.

a. How fast is the cyclist traveling in feet per second?

GIVEN $56 \text{ MILES} \times 5280 \text{ ft} = 295,680 \text{ ft}$

$4 \text{ HOURS} \times 60 \text{ MINUTES} \times 60 \text{ SECONDS} = 14,400 \text{ SECONDS}$

$$\frac{295,680 \text{ ft}}{14,400 \text{ SECONDS}} = 20.5 \text{ ft/SEC}$$

B. How many feet will he travel in 100 seconds?

$$20.5 \text{ ft/SEC} \times 100 \text{ SECOND} = 2,050 \text{ FEET}$$



EXAMPLE 8: COST ANALYSIS

Coach is buying Gatorade for the football team. He has 51 players and he wants each one to have their own bottle. Gatorade comes in cases of 24 for \$12.35

a. How many cases will he need to buy?

$$\begin{array}{l} 2 \times 24 = 48 \text{ BOTTLES} \\ \text{CASES} \end{array} \quad \leftarrow \text{NOT ENOUGH}$$

$$\boxed{3 \text{ CASES}} \times 24 = 72 \text{ BOTTLES}$$

b. How much will he spend on all of the Gatorade?

$$3 \times 12.35 = \$37.05$$



PLAN GALLON $3.79 \text{ L} \rightarrow \text{mL}$

EXAMPLE 9: USING CONVERSIONS TO FIND TOTALS

1 GALLON = 3.79 L

You went to Costco and bought a gallon of Mio to flavor your water with. If you use 0.5 ml of Mio in each water bottle you drink, how many bottles of water will you be able to flavor?

GIVEN

$$1 \text{ GALLON} \times 3.79 \text{ L} = 3.79 \text{ L} \rightarrow \text{mL} \quad 3,790 \text{ mL}$$

$$\frac{3790 \text{ mL}}{0.5 \text{ mL}} = 7,580 \text{ BOTTLES}$$



EXAMPLE 10: USING CONVERSIONS TO FIND TOTALS

A local seamstress is making bows for the cheerleaders. Each bow requires 15 inches of ribbon. There are 24 cheerleaders, how many FEET of ribbon will she need?

Bow


$$= 15 \text{ inches} \times \text{CHEERLEADER} \times 24 = 360 \text{ inches}$$

CHEERLEADER



$$\frac{360 \text{ inches}}{12 \text{ ft}} = 30 \text{ ft OF RIBBON}$$