

Name:

### 1.7 Homework: Unit conversion

1 inch = 2.54 centimeters	1 pound = 16 ounces	1 quart = 2 pints
1 meter = 39.37 inches	1 pound = 0.454 kilogram	1 gallon = 4 quarts
1 mile = 5280 feet	1 kilogram = 2.2 pounds	1 gallon = 3.785 liters
1 mile = 1760 yards	1 ton = 2000 pounds	1 liter = 0.264 gallon
1 mile = 1.609 kilometers	1 cup = 8 fluid ounces	1 liter = 1000 cubic centimeters
1 kilometer = 0.62 mile	1 pint = 2 cups	

1. Use the table above to answer this question, How many...

(a) ounces in a pound

(b) inches in a meter

2. Use your personal knowledge to answer, How many...

(a) inches in a foot

(b) minutes in an hour

3. Required notation: leading variable (capitalized), conversion ratio with units, answer with units.

Example: Find the distance in feet of  $D = 4$  miles.

$$D = 4 \text{ miles} \times \frac{5280 \text{ feet}}{1 \text{ mile}} = 21,120 \text{ feet}$$

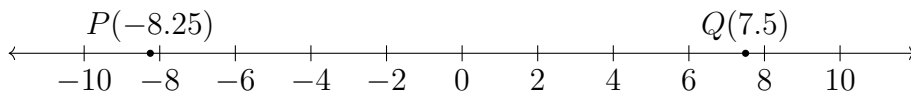
(a) Find the width in centimeters of a screen having  $W = 20$  inches.

(b) Find number of minutes in a school day,  $T = 6$  hours.

(c) Find the weight in kilograms of a person with weight  $W = 120$  pounds.

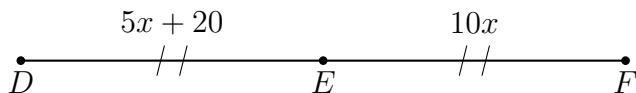
(d) Find the length in feet of a New York City block whose length is  $L = \frac{1}{20}$  miles.

4. The points  $P(-8.25)$  and  $Q(7.5)$  are shown on the number line. Find  $PQ$ .



5. The perimeter of an equilateral triangle is 27 inches. Find the length of its sides.

6. Point  $E$  bisects  $\overline{DEF}$  and  $DE = 5x + 20$ ,  $EF = 10x$ . Find  $DF$ . (show check)



7. Find the perimeter of rectangle  $BECA$  given the dimensions as marked,  $AB = 8$ ,  $BE = x - 2$ ,  $CE = x$ .

