

Name:

Block:

## Unit Conversion 2 - Unit Rates

What is a unit rate? Give 3 examples of unit rates that you've encountered in your life.

Convert the following to unit rates and tie them to real-world situations

Example: 18km in 3h = 6km/h      I ran at 6km/h

- |                                    |  |                              |
|------------------------------------|--|------------------------------|
| 1) 9kg for 9L (liquid)             | $9\text{kg}/9\text{L} = 1\text{kg}/\text{L}$             | Water's density              |
| 2) \$5 for 3lbs (food)             | $\$5/3\text{lbs} = \$1.67/\text{lb}$                     | Price of apples              |
| 3) \$1.99 for 100g (food)          | $\$1.99/100\text{g} = \$0.0199/\text{g}$                 | Price of candies             |
| 4) \$1.99 for 0.25kg (food)        | $\$1.99/0.25\text{kg} = \$7.96/\text{kg}$                | Price of peanuts             |
| 5) 100m in 9.58s (Bolt)            | $100\text{m}/9.58\text{s} = 10.44\text{m}/\text{s}$      | Usain Bolt avg speed         |
| 6) \$700 for 40h                   | $\$700/40\text{h} = \$17.50/\text{h}$                    | Wage at Lululemon            |
| 7) 55g for 7cm <sup>3</sup> (iron) | $55\text{g}/7\text{cm}^3 = 7.86\text{g}/\text{cm}^3$     | Density of iron              |
| 8) 40 000km in 24h (Earth)         | $40\ 000\text{km}/24\text{h} = 1667\text{km}/\text{h}$   | Speed at which Earth rotates |
| 9) 40 for \$7.99 (Tim Hortons)     | $40/\$7.99 = 5.01/\$$                                    | Price of timbits             |
| 10) 35g for 1000mL (ocean)         | $35\text{g}/1000\text{mL} = 0.035\text{g}/\text{mL}$     | Salinity of ocean            |
| 11) 5373km in 143day (Terry)       | $5373\text{km}/143\text{day} = 37.6\text{km}/\text{day}$ | Terry Fox's run              |
| 12) 100km for 6L (car)             | $100\text{km}/6\text{L} = 16.67\text{km}/\text{L}$       | Fuel efficiency of car       |
| 13) \$12 for 15 songs              | $\$12/15\text{song} = \$0.80/\text{song}$                | Price per song for album     |
| 14) \$110 for 90min                | $\$110/90\text{min} = \$1.22/\text{min}$                 | Price of massage             |

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|-----------------------------------|---|-----------------------------|
| 15) 10 cups over 5h               | $10\text{cup}/5\text{h} = 2\text{cup}/\text{h}$   | Coffee addict's consumption |
| 16) \$5.99 for 4L                 | $\$5.99/4\text{L} = \$1.50/\text{L}$  | Price of milk               |
| 17) \$3.09 for 12                 | $\$3.09/12 = \$0.258/1$   | Price per egg               |
| 18) \$15 for 8 slices             | $\$15/8\text{slices} = \$1.88/\text{slice}$   | Pizza by the slice          |
| 19) 9 500 000 000 000km in 365day | $9\ 500\ 000\ 000\ 000\text{km}/365\text{day} =$<br>$26027397260.3\text{km}/\text{day}$ | SPEED OF LIGHT              |
| 20) 1USD for 1.31CAD              | $1\text{USD}/1.31\text{CAD} = 0.763\text{USD}/\text{CAD}$                               | USD-CAD exchange rate       |

**Create the unit rate from the given scenario**

- a) Mr. Ridge ate 19 doughnuts over 5 days.
  
- b) Mr. Ridge walked 36 000 steps in 9 hours.
  
- c) Mr. Ridge cooked 400g of rice with 650mL of water.
  
- d) Mr. Ridge went thrift shopping and bought 6 items for \$25.
  
- e) Mr. Ridge ran 1000m in 210s.

f) Mr. Ridge watched 400h of TV over 365day.