

Rates

February-28-19 9:53 AM

* A rate is a comparison of 2 numbers with different units :

- only 2 terms
- set up like a fraction (but decimals ok)
- units must be included

⊗ money always on top

⊗ time always on bottom

* A unit rate is a special rate where the 2nd (bottom) number = 1

Ex. write each rate, then determine the unit rate :

a) Ben drove 270 km in 3 hours Time = bottom

$$\text{Rate: } \frac{270 \text{ km}}{3 \text{ h}}$$

$$\text{Unit Rate: } \frac{270 \text{ km} \div 3}{3 \text{ h} \div 3} = \frac{90 \text{ km}}{1 \text{ h}}$$

↑ To find the unit rate always divide by bottom #

b) Jessica spent \$36.95 on 5 books money = top

$$\text{Rate: } \frac{\$36.95}{5 \text{ books}}$$

$$\text{Unit Rate: } \frac{\$36.95 \div 5}{5 \text{ books} \div 5} = \frac{\$7.39}{1 \text{ book}}$$

When a unit rate includes money it's called a unit price = cost of 1 item!

⊛ Best Buy = Better Buy \Rightarrow option with the Lower unit price

Ex. What store has the better buy?

store A: 18 apples for \$8.10

store B: 20 apples for \$9.25

(A) $\frac{\$8.10}{18 \text{ apples} \div 18} = \frac{\$0.45}{1 \text{ apple}}$ \Leftarrow Better buy because lower unit price!

(B) $\frac{\$9.25}{20 \text{ apples} \div 20} = \frac{\$0.46}{1 \text{ apple}}$