


5.4 COMPARING AND ORDERING RATIOS

ESSENTIAL QUESTION:

How can we use unit rates in every day life?

Which one is the better buy? Explain.

1)



Handwritten long division for unit price of 6 pack:

$$\begin{array}{r} .83\overline{16} \\ 6 \overline{) 4.990} \\ \underline{-48} \\ 19 \\ \underline{-18} \\ 10 \\ \underline{-6} \\ 340 \\ \underline{-30} \\ 4 \end{array}$$

The 18 pack of Gatorade is the better buy because it is .75¢ per bottle while the 6 pack is .83¢ per bottle.




18 pack
12 oz
13.49

Handwritten long division for unit price of 18 pack:

$$\begin{array}{r} .75\overline{00} \\ 18 \overline{) 13.490} \\ \underline{-126} \\ 89 \\ \underline{-72} \\ 170 \\ \underline{-162} \\ 80 \\ \underline{-72} \\ 8 \end{array}$$

2)



Handwritten long division for unit price of 18 oz box:

$$\begin{array}{r} .21\overline{0} \\ 18 \overline{) 3.790} \\ \underline{-36} \\ 19 \\ \underline{-18} \\ 10 \\ \underline{-9} \\ 10 \end{array}$$

The 20 oz box of Cheerios is the better buy because it is .23¢ per ounce while the 18 oz box is .21¢ per ounce.




20 oz box \$4.69
.23¢
per oz

Handwritten long division for unit price of 20 oz box:

$$\begin{array}{r} .23\overline{4} \\ 20 \overline{) 4.690} \\ \underline{-40} \\ 69 \\ \underline{-60} \\ 90 \\ \underline{-80} \\ 10 \end{array}$$

3)



Handwritten long division for unit price of 8 oz bag:

$$\begin{array}{r} .47\overline{3} \\ 8 \overline{) 3.790} \\ \underline{-32} \\ 59 \\ \underline{-56} \\ 30 \\ \underline{-27} \\ 3 \end{array}$$

The 10 oz bag of chips is the better buy because it is .43¢ per ounce while the 8 oz bag is .47¢ per ounce.



10 oz bag \$4.29
.43¢
per oz

Handwritten long division for unit price of 10 oz bag:

$$\begin{array}{r} .42\overline{9} \\ 10 \overline{) 4.290} \\ \underline{-40} \\ 29 \\ \underline{-20} \\ 90 \\ \underline{-90} \\ 0 \end{array}$$

.06¢ per oz

96 oz bottle \$5.89

Handwritten calculation for 96 oz bottle:

$$\begin{array}{r} .06 \\ 96 \overline{) 5.890} \\ \underline{- 0} \\ 589 \\ \underline{- 576} \\ 130 \\ \underline{- 120} \\ 10 \\ \underline{- 96} \\ 34 \end{array}$$



The 64 oz bottle of juice is the better buy because it is .05¢ per oz while the 96 oz bottle is .06¢ per oz.

.05¢ per oz

64 oz bottle \$3.49



Handwritten calculation for 64 oz bottle:

$$\begin{array}{r} .054 \\ 64 \overline{) 3.490} \\ \underline{- 0} \\ 349 \\ \underline{- 320} \\ 290 \\ \underline{- 256} \\ 34 \end{array}$$

18.5 lb bag \$15.99

Handwritten calculation for 18.5 lb bag:

$$\begin{array}{r} .864 \\ 18.5 \overline{) 15.990} \\ \underline{- 1480} \\ 1190 \\ \underline{- 1110} \\ 800 \\ \underline{- 710} \\ 140 \end{array}$$



The 16 pound bag of dog food is the better buy because it is .81¢ per pound while the 18.5 pound bag is .86¢ per pound.

16 lb bag \$12.99



Handwritten calculation for 16 lb bag:

$$\begin{array}{r} .811 \\ 16 \overline{) 12.990} \\ \underline{- 1280} \\ 190 \\ \underline{- 160} \\ 300 \\ \underline{- 240} \\ 60 \\ \underline{- 48} \\ 14 \end{array}$$

Determine which car gets the better gas mileage. Explain.

1) 33.3 miles per gallon

CAR A

$$\begin{array}{r} 33.3 \\ 12 \overline{) 400.0} \\ \underline{- 360} \\ 400 \\ \underline{- 360} \\ 400 \\ \underline{- 360} \\ 400 \\ \underline{- 360} \\ 400 \end{array}$$

Car	A	B
Distance (miles)	400	440
Gallons used	12	15

CAR B

$$\begin{array}{r} 29.3 \\ 15 \overline{) 440} \\ \underline{- 135} \\ 140 \\ \underline{- 135} \\ 50 \end{array}$$

 Car A gets the better gas mileage because it gets 33.3 miles per gallon while Car B gets 29.3 miles per gallon.

Car	A	B
Distance (miles)	510	550
Gallons used	18	20

Car A gets the better gas mileage because it gets 28 mpg while Car B gets 27.5 mpg.

2) 16.25 mpg

Car A

$$\begin{array}{r} 16.25 \\ 8 \overline{) 130.00} \\ \underline{- 80} \\ 500 \\ \underline{- 480} \\ 200 \\ \underline{- 160} \\ 400 \\ \underline{- 400} \\ 0 \end{array}$$

Car	A	B
Distance (miles)	130	125
Gallons used	8	9

Car A gets the better gas mileage because it gets 16.25 mpg while Car B gets 13.9 mpg.

4)

Car	A	B
Distance (miles)	460	430
Gallons used	35	32

Car A

$$\begin{array}{r} 13.14 \\ 35 \overline{) 460.00} \\ \underline{- 350} \\ 1100 \\ \underline{- 1050} \\ 500 \\ \underline{- 490} \\ 100 \\ \underline{- 100} \\ 0 \end{array}$$

Car B gets the better gas mileage because it gets 13.4 mpg while Car A gets 13.1 mpg.

Handwritten calculation for 13.9 mpg:

$$\begin{array}{r} 13.88 \\ 9 \overline{) 125.00} \\ \underline{- 90} \\ 350 \\ \underline{- 270} \\ 800 \\ \underline{- 720} \\ 800 \\ \underline{- 720} \\ 80 \end{array}$$

Handwritten calculation for 13.43 mpg:

$$\begin{array}{r} 13.43 \\ 32 \overline{) 430.00} \\ \underline{- 320} \\ 1100 \\ \underline{- 1088} \\ 1200 \\ \underline{- 1152} \\ 480 \\ \underline{- 480} \\ 0 \end{array}$$