

Unit Rates and Better Buys

Grade 6 math · Worksheet Answer Key · Standards: 6.RP.A.2, 6.RP.A.3b

Each problem has a full worked solution, with the final answer in bold and a check where useful. Compare the division you set up with the one shown, since the order of the numbers decides the unit.

Standards: 6.RP.A.2, 6.RP.A.3b · **Level:** Grade 6

Problem 1 Writing Rates

The first quantity is “per” the second quantity.

Answer: **(a) 135 miles per 3 hours; (b) \$14 per 4 pounds.**

Problem 2 Finding Unit Rates

(a) $96 \div 6 = 16$ miles in 1 hour.

(b) $63 \div 7 = 9$ words in 1 minute.

Answer: **(a) 16 miles per hour; (b) 9 words per minute.**

Problem 3 Unit Price of Notebooks

$10.50 \div 6 = 1.75$.

Check: $6 \times 1.75 = 10.50$.

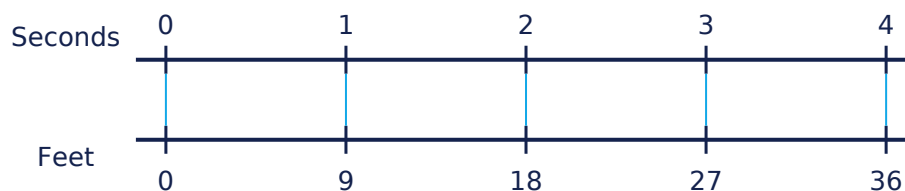
Answer: **\$1.75 per notebook.**

Problem 4 Reading a Double Number Line

(a) $36 \div 4 = 9$ feet each second, so the blanks are 9, 18 and 27.

(b) $9 \times 7 = 63$ feet.

Answer: **(a) 9 feet per second; (b) 63 feet.**



Every second adds 9 feet.

Problem 5 Rate Table

(a) $9 \div 2 = 4.5$. Check: $22.5 \div 5 = 4.5$ and $36 \div 8 = 4.5$.

(b) $4.5 \times 12 = 54$.

Answer: **(a) 4.5 cups per loaf; (b) 54 cups.**

Problem 6 Two Unit Rates

(a) $45 \div 18 = 2.5$ gallons per minute.

(b) $18 \div 45 = 0.4$ minute per gallon.

Check: $2.5 \times 0.4 = 1$.

Answer: **(a) 2.5 gallons per minute; (b) 0.4 minute per gallon.**

Problem 7 Comparing Cereal

A: $4.20 \div 14 = \$0.30$ per ounce. B: $5.04 \div 18 = \$0.28$ per ounce.

Answer: **Cereal B** costs less per ounce.

Problem 8 Jogging Speed

$12 \div 1.5 = 8$.

Check: $8 \times 1.5 = 12$.

Answer: **8 miles per hour.**

Problem 9 Distance at Constant Speed

distance = speed $\times$ time = $48 \times 3.5 = 168$.

Answer: **168 miles.**

Problem 10 Copier Time

$$360 \div 24 = 15.$$

$$\text{Check: } 24 \times 15 = 360.$$

Answer: **15 minutes.**

Problem 11 Three Juice Sizes

$$64 \text{ oz: } 3.20 \div 64 = 0.05. \quad 96 \text{ oz: } 4.56 \div 96 = 0.0475. \quad 128 \text{ oz: } 6.72 \div 128 = 0.0525.$$

Answer: **the 96-ounce bottle**, at \$0.0475 per ounce.

Size	Unit price
64 oz	\$0.0500 per oz
96 oz	\$0.0475 per oz
128 oz	\$0.0525 per oz

The lowest unit price wins.

Problem 12 Hourly Pay

$$(a) 87.50 \div 7 = 12.50.$$

$$(b) 12.50 \times 30 = 375.$$

Answer: **(a) \$12.50 per hour; (b) \$375.**

Problem 13 Is the Rate Constant?

Table A: $30 \div 2 = 15$, $60 \div 4 = 15$, $80 \div 5 = 16$. The rate changes.

Table B: $110 \div 2 = 55$, $165 \div 3 = 55$, $330 \div 6 = 55$. The rate is the same.

Answer: **Table B, at 55 miles per hour.**

Problem 14 Comparing Hikers

Ava: $15 \div 4 = 3.75$ miles per hour. Ben: $22 \div 6 = 3.666\dots$ miles per hour.

Answer: **Ava** is faster.

Problem 15 Fuel Economy

(a) A: $330 \div 11 = 30$. B: $266 \div 7 = 38$. B is better by $38 - 30 = 8$ miles per gallon.

(b) $570 \div 38 = 15$.

Answer: **(a) Car B, by 8 miles per gallon; (b) 15 gallons.**

Problem 16 Pencil Packs

24-pack: $7.20 \div 24 = \$0.30$ each. 36-pack: $9.90 \div 36 = \$0.275$ each, so the 36-pack is the better buy.

$144 \div 36 = 4$ packs, costing $4 \times 9.90 = \$39.60$. $144 \div 24 = 6$ packs, costing $6 \times 7.20 = \$43.20$.

$43.20 - 39.60 = 3.60$.

Answer: **\$3.60.**

Problem 17 Draining Pools

A: $475 \div 12.5 = 38$ minutes. B: $399 \div 10.5 = 38$ minutes.

Check: $12.5 \times 38 = 475$ and $10.5 \times 38 = 399$.

Answer: **both take 38 minutes, so neither finishes first.**

Problem 18 Road Trip Legs

First leg: $62 \times 4 = 248$ miles. Second leg: $56 \times 2.5 = 140$ miles.

(a) $248 + 140 = 388$.

(b) $248 - 140 = 108$.

Answer: **(a) 388 miles; (b) 108 miles.**

Problem 19 Food Truck Rush

$45 \div 30 = 1.5$ tacos per minute. 3.5 hours = 210 minutes.

$1.5 \times 210 = 315$ tacos. $315 \times 3.25 = 1,023.75$.

Answer: **\$1,023.75.**

Problem 20 Comparing Jobs

A: $13.40 \times 28 = 375.20$. B: $11.50 \times 33 = 379.50$.

$379.50 - 375.20 = 4.30$.

Answer: **Job B pays \$4.30 more per week.**