

Grade 6 · Unit Rates · Worksheet Answer Key

Common Core 6.RP.A.2, 6.RP.A.3b · mathovore.fr

This answer key shows a full worked solution for each of the 20 unit rates problems. Each solution divides to find the unit rate and then checks the result by multiplying. Compare your steps and your rate units with the bold final answers.

Grade 6 Common Core: 6.RP.A.2 · 6.RP.A.3b

Problem 1: Unit rate of speed

Divide miles by hours: $150 \div 3 = 50$.

Check: $50 \times 3 = 150$.

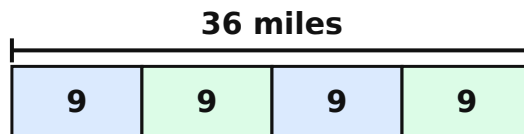
50 miles per hour.

Problem 2: Bike ride speed

Divide miles by hours: $36 \div 4 = 9$.

Check: $9 \times 4 = 36$.

9 miles per hour.



Each hour covers 9 miles.

Problem 3: Unit price

Divide the cost by the number of notebooks: $\$9.00 \div 6 = \$1.50$.

Check: $6 \times 1.50 = 9.00$.

\$1.50 per notebook.

Problem 4: Water bottle price

Divide the cost by the number of bottles: $\$6.00 \div 8 = \$0.75$.

Check: $8 \times 0.75 = 6.00$.

\$0.75 per bottle.

Problem 5: Typing rate

Divide words by minutes: $180 \div 4 = 45$.

Check: $45 \times 4 = 180$.

45 words per minute.

Problem 6: Filling a tank

Divide gallons by minutes: $15 \div 6 = 2.5$.

Check: $2.5 \times 6 = 15$.

2.5 gallons per minute.

Problem 7: Cost from a unit price

Multiply the unit price by the number of pounds: $1.80 \times 5 = 9.00$.

\$9.00.

Problem 8: Hiking with fractions

Divide the distance by the time: $\frac{3}{4} \div \frac{1}{2} = \frac{3}{4} \times \frac{2}{1} = \frac{6}{4} = \frac{3}{2}$.

Check: $\frac{3}{2} \times \frac{1}{2} = \frac{3}{4}$.

$1\frac{1}{2}$ miles per hour.

Problem 9: Cheese by the pound

(a) Multiply the unit price by the weight: $6.40 \times 3.5 = 22.40$.

(b) Divide the money by the unit price: $32 \div 6.40 = 5$.

Check: $5 \times 6.40 = 32.00$.

(a) \$22.40. (b) 5 pounds.

Problem 10: Printer speed

(a) $12 \times 8 = 96$ pages.

(b) $150 \div 12 = 12.5$ minutes.

Check: $12 \times 12.5 = 150$.

(a) 96 pages. (b) 12.5 minutes.

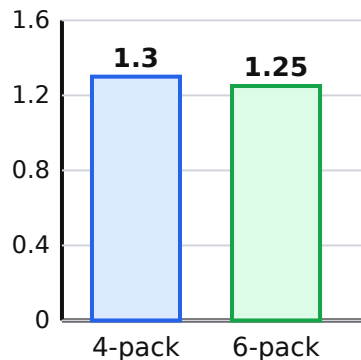
Problem 11: Better buy: juice

4-pack: $\$5.20 \div 4 = \$1.30$ per bottle.

6-pack: $\$7.50 \div 6 = \$1.25$ per bottle.

The 6-pack has the lower price per bottle.

The 6-pack is the better buy (\$1.25 versus \$1.30).



Price per bottle: the 6-pack is lower.

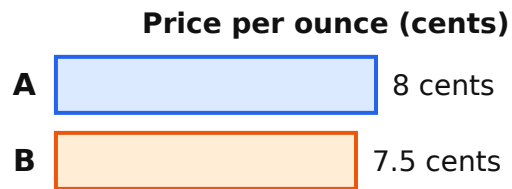
Problem 12: Pasta better buy

16-ounce box: $\$1.28 \div 16 = \$0.08$ per ounce.

24-ounce box: $\$1.80 \div 24 = \$0.075$ per ounce.

The 24-ounce box has the lower price per ounce.

The 24-ounce box is the better buy (\$0.075 versus \$0.08 per ounce).



Box B costs less per ounce.

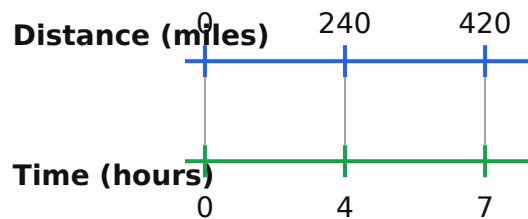
Problem 13: Constant speed train

Unit rate: $240 \div 4 = 60$ miles per hour.

(a) $60 \times 7 = 420$ miles.

(b) $360 \div 60 = 6$ hours.

(a) 420 miles. (b) 6 hours.



At 60 miles per hour, 7 hours is 420 miles.

Problem 14: Car wash earnings

Unit rate: $\$96 \div 8 = \$12$ per car.

For 5 cars: $12 \times 5 = 60$.

\$12 per car; \$60 for 5 cars.

Problem 15: Babysitting pay

Unit rate: $\$63 \div 7 = \$9$ per hour.

(a) $9 \times 12 = 108$.

(b) $144 \div 9 = 16$.

(a) \$108. (b) 16 hours.

Problem 16: Cookie recipe

Unit rate: $3 \div 24 = \frac{1}{8}$ cup of flour per cookie.

For 40 cookies: $\frac{1}{8} \times 40 = 5$.

Check: 40 cookies is $24 + 16$ cookies, and $3 + 2 = 5$ cups.

$\frac{1}{8}$ cup per cookie; 5 cups of flour.

Problem 17: Comparing three sizes

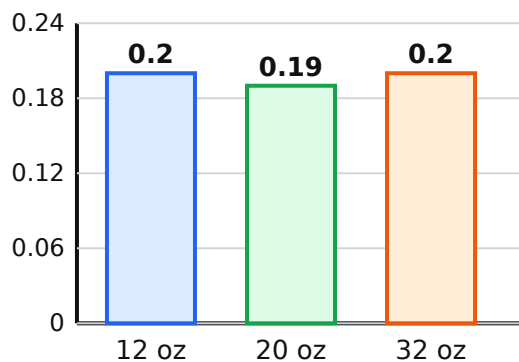
12 oz: $\$2.40 \div 12 = \$0.20$ per ounce.

20 oz: $\$3.80 \div 20 = \$0.19$ per ounce.

32 oz: $\$6.40 \div 32 = \$0.20$ per ounce.

The lowest unit price is \$0.19.

The 20-ounce size is the best buy.



Price per ounce: the 20-ounce size is lowest.

Problem 18: Runners compared

Maya: $40 \div 5 = 8$ minutes per mile.

Ethan: $27 \div 3 = 9$ minutes per mile.

Less time for each mile means a faster pace, so Maya is faster. The difference is $9 - 8 = 1$.

Maya is faster, by 1 minute per mile.

Problem 19: Gas and miles

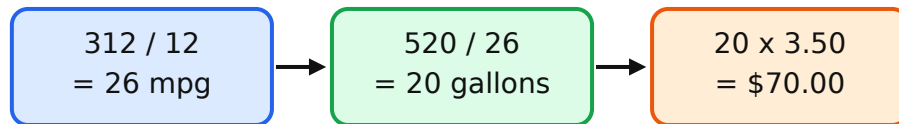
(a) $312 \div 12 = 26$ miles per gallon.

(b) $520 \div 26 = 20$ gallons.

(c) $20 \times 3.50 = 70$.

Check: $26 \times 20 = 520$ miles.

(a) 26 miles per gallon. (b) 20 gallons. (c) \$70.00.



Each step uses the result of the step before it.

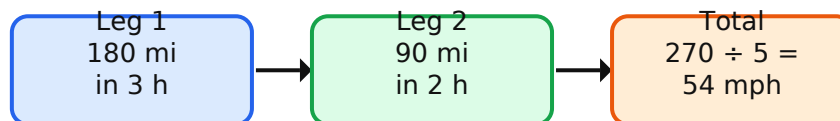
Problem 20: Road trip

(a) First part: $60 \times 3 = 180$ miles. Second part: $45 \times 2 = 90$ miles. Total: $180 + 90 = 270$ miles.

(b) Total time: $3 + 2 = 5$ hours.

(c) Average speed: $270 \div 5 = 54$ miles per hour.

(a) 270 miles. (b) 5 hours. (c) 54 miles per hour.



270 miles in 5 hours gives 54 miles per hour.