

Solving Multistep Percent Problems with Tax, Tips and Discounts

Grade 7 math · Test Answer Key · Standards: 7.RP.A.3

Use the scoring notes under each solution. Award partial credit when the setup is correct but one calculation slips, and when the amounts are right but a label or a dollar sign is missing.

Standards: 7.RP.A.3 · **Level:** Grade 7

Question 1 Tip on Dinner (2 points)

Tip: $0.20 \times 52 = 10.40$.

Total: $52 + 10.40 = 62.40$.

tip \$10.40; total \$62.40

Scoring: 1 point for the tip, 1 point for the total.

Question 2 Jeans Sale and Tax (2 points)

Sale price: $64 \times 0.65 = 41.60$.

Tax: $41.60 \times 0.075 = 3.12$.

Total: $41.60 + 3.12 = 44.72$.

\$44.72

Scoring: 1 point for the sale price, 1 point for the total with tax.

Question 3 Simple Interest Account (3 points)

(a) $1,500 \times 0.042 \times 5 = 315$.

(b) $1,500 + 315 = 1,815$.

(c) Each year earns $1,500 \times 0.042 = 63$, so $126 \div 63 = 2$ years.

\$315; \$1,815; 2 years

Scoring: 1 point per part.

Question 4 Weekly Pay with Commission (3 points)

- (a) $0.035 \times 6,800 = 238$.
- (b) $450 + 238 = 688$.
- (c) $800 - 450 = 350$ from commission, and $350 \div 0.035 = 10,000$.

\$238; \$688; \$10,000 in sales

Scoring: 1 point per part.

Question 5 Pie Shop Markup (3 points)

- (a) $0.55 \times 4.20 = 2.31$.
- (b) $4.20 + 2.31 = 6.51$.
- (c) $12 \times 6.51 = 78.12$.

\$2.31; \$6.51; \$78.12

Scoring: 1 point per part.

Question 6 Price Before Tax (3 points)

- (a) The total is 106% of the price: $1.06 \times \text{price} = 63.60$, so $\text{price} = 63.60 \div 1.06 = 60.00$.
- (b) $63.60 - 60.00 = 3.60$.

\$60.00; \$3.60

Scoring: 1 point for the equation, 1 point for the price, 1 point for the tax.

Question 7 Two Discounts (2 points)

- (a) $200 \times 0.70 = 140$, and $140 \times 0.85 = 119$.
- (b) A 45% discount gives $200 \times 0.55 = 110$. Since $119 \neq 110$, it is not the same: the second discount applies to a smaller price.



Completed chain.

\$119; no

Scoring: 1 point for the price, 1 point for the explanation.

Question 8 Ticket with Fees (2 points)

Service fee: $0.12 \times 45 = 5.40$.

Total: $45 + 5.40 + 3 = 53.40$.

\$53.40

Scoring: 1 point for the service fee, 1 point for the total.