

GRADE 5 MATHEMATICS

PROFIT, LOSS & DISCOUNT

Complete Worksheet Pack

- Cost price & selling price
 - Profit and loss
- Profit & loss percentages
- Discounts & sale prices
- Real-life shopping

6 practice worksheets + separate answer keys

- Reasoning & challenges

Worksheet 1 • Cost Price, Selling Price & Profit

Understand the basic language of buying and selling.

A. Identify the values

1. A shop buys a notebook for \$4 and sells it for \$6. What is the cost price (CP)? What is the selling price (SP)?

2. A toy costs a shop \$15 and is sold for \$22. Is there a profit or a loss?

3. A bag is bought for \$30 and sold for \$25. Is there a profit or a loss?

4. A bicycle is bought for \$180 and sold for \$220. Find the profit.

5. A lamp is bought for \$75 and sold for \$60. Find the loss.

B. Calculate

6. CP = \$45, SP = \$58. Find the profit.

7. CP = \$90, SP = \$72. Find the loss.

8. CP = \$125, SP = \$150. Find the profit.

9. CP = \$240, SP = \$215. Find the loss.

10. CP = \$350, SP = \$410. Find the profit.

C. Reasoning

11. If CP and SP are equal, is there a profit or loss? What is the amount?

12. A student says that a higher selling price always means a profit. Explain why this is not necessarily true.

13. Give one real-life example where an item is sold at a loss.

Worksheet 1 • Cost Price, Selling Price & Profit

Answer Key

A

1. CP \$4, SP \$6. 2. Profit. 3. Loss. 4. \$40 profit. 5. \$15 loss.

B

6. \$13 profit. 7. \$18 loss. 8. \$25 profit. 9. \$25 loss. 10. \$60 profit.

C

11. Neither; \$0. 12. Profit depends on whether SP is above CP, not on SP alone. 13. Answers vary; e.g. selling old stock below its purchase price.

Worksheet 2 • Profit & Loss Percentages

Find profit or loss as a percentage of cost price.

A. Find the percentage

1. CP = \$100, profit = \$20. Find the profit percentage.

2. CP = \$200, profit = \$50. Find the profit percentage.

3. CP = \$150, loss = \$30. Find the loss percentage.

4. CP = \$80, profit = \$12. Find the profit percentage.

5. CP = \$400, loss = \$40. Find the loss percentage.

B. Find the missing amount

6. An item costs \$100 and is sold at a 15% profit. Find the profit and selling price.

7. An item costs \$200 and is sold at a 10% loss. Find the loss and selling price.

8. A book costs \$80 and is sold at a 25% profit. Find the selling price.

9. A jacket costs \$120 and is sold at a 20% loss. Find the selling price.

C. Think carefully

10. Which is greater: a \$20 profit on a \$100 item or a \$30 profit on a \$200 item? Compare the profit percentages.

11. A student calculates 20% profit on \$150 as \$20. What is the correct profit? Explain the error.

12. Why is profit percentage usually calculated using the cost price as the reference?

Worksheet 2 • Profit & Loss Percentages

Answer Key

A

1. 20%. 2. 25%. 3. 20%. 4. 15%. 5. 10%.

B

6. Profit \$15; SP \$115. 7. Loss \$20; SP \$180. 8. \$100. 9. \$96.

C

10. \$20 on \$100 = 20%; \$30 on \$200 = 15%, so the first has the greater profit percentage. 11. Correct profit = \$30; 20% of \$150 is \$30. 12. Because the gain or loss is measured relative to what the item cost.

Worksheet 3 • Discounts & Sale Prices

Use percentage discounts to find savings and final prices.

A. Find the discount

1. A \$80 shirt has a 25% discount. Find the discount amount.

2. A \$150 backpack has a 20% discount. Find the discount amount.

3. A \$240 bicycle has a 15% discount. Find the discount amount.

4. A \$60 game has a 10% discount. Find the discount amount.

5. A \$400 appliance has a 30% discount. Find the discount amount.

B. Find the sale price

6. A \$100 jacket is discounted by 20%. Find the sale price.

7. A \$250 watch is discounted by 10%. Find the sale price.

8. A \$360 bicycle is discounted by 25%. Find the sale price.

9. A \$500 tablet is discounted by 15%. Find the sale price.

C. Compare offers

10. A \$200 bag has either a 20% discount or a \$35 discount. Which offer gives the larger saving? By how much?

11. A \$300 item is discounted by 10%, then the sale price is discounted by another 10%. Is the total discount 20% of the original price? Calculate and explain.

12. A shop says "50% off" an item priced at \$80. What will the customer pay?

Worksheet 3 • Discounts & Sale Prices

Answer Key

A

1. \$20. 2. \$30. 3. \$36. 4. \$6. 5. \$120.

B

6. \$80. 7. \$225. 8. \$270. 9. \$425.

C

10. 20% of \$200 = \$40, so the 20% offer saves \$5 more. 11. No. First price becomes \$270; second discount is \$27; final price \$243, a total saving of \$57, or 19%. 12. \$40.

Worksheet 4 • Real-Life Profit, Loss & Discount

Apply the ideas to practical shopping situations.

A. Shop problems

1. A shop buys 40 notebooks for \$3 each and sells each for \$5. Find the total cost, total selling price and total profit.

2. A store buys a bicycle for \$250 and sells it for \$300. Find the profit and profit percentage.

3. A shop buys a jacket for \$120 and sells it for \$96. Find the loss and loss percentage.

B. Discounts in context

4. A pair of shoes marked at \$120 is offered at 25% off. Find the discount and sale price.

5. A school bag marked at \$80 is offered at 15% off. Find the discount and sale price.

6. A camera marked at \$400 is offered at 20% off. If a customer pays \$50 extra for an accessory, what is the total amount paid?

C. Multi-step reasoning

7. A shop buys a toy for \$40, marks it up to \$60, then gives a 10% discount. What is the final selling price and the actual profit?

8. A shop buys 20 water bottles for \$8 each. It sells 15 at \$12 each and the remaining 5 at \$6 each. Find the total cost, total revenue and overall profit.

9. A jacket is sold for \$144 after a 20% discount. What was its marked price?

Worksheet 4 • Real-Life Profit, Loss & Discount

Answer Key

A

1. Total cost \$120; total selling price \$200; profit \$80. 2. Profit \$50; 20% profit. 3. Loss \$24; 20% loss.

B

4. Discount \$30; sale price \$90. 5. Discount \$12; sale price \$68. 6. Discount \$80; item price \$320; total paid \$370.

C

7. Final price \$54; profit \$14. 8. Cost \$160; revenue $\$180 + \$30 = \$210$; profit \$50. 9. \$180.

Worksheet 5 • Error Analysis & Smart Shopping

Spot mistakes and compare offers rather than just looking at percentages.

A. Find the mistake

1. Sam says: "CP \$80, SP \$100, so the profit is \$20 and profit percentage is 20%." Is the percentage correct? Explain.

2. Mia says a 25% discount on \$200 means the customer pays \$175. Find her mistake.

3. A shop buys an item for \$150 and sells it for \$120. A student calls this a \$30 profit. Explain the error.

4. A 10% discount followed by another 10% discount is described as exactly 20% off. Is that correct? Show an example.

B. Compare shopping offers

5. Store A offers 30% off a \$100 item. Store B offers \$25 off the same item. Which gives the greater saving?

6. Store A offers 20% off \$250. Store B offers 15% off \$300. Find both savings and compare them.

7. An item costs \$200. Offer A gives 25% off. Offer B gives 15% off plus an extra \$20 off. Compare the final prices.

C. Reasoning

8. Can an item have a profit percentage of 25% but a discount of 25%? Explain why the percentages are based on different amounts.

9. Why should shoppers calculate the final price instead of choosing an offer only because its percentage sounds larger?

10. Create two different discount offers that give the same final price on a \$200 item.

Worksheet 5 • Error Analysis & Smart Shopping

Answer Key

A

1. No. Profit is \$20; profit percentage is 25%. 2. 25% of \$200 is \$50, so the customer pays \$150. 3. It is a \$30 loss. 4. No. Example: \$100 → \$90 → \$81, so total saving is 19%.

B

5. Store A saves \$30; Store B saves \$25, so A saves \$5 more. 6. A saves \$50; B saves \$45, so A saves \$5 more. 7. A final price = \$150; B final price = \$150; offers are equal.

C

8. Yes. Profit percentage uses CP; discount percentage uses the marked/original selling price being discounted. 9. The actual saving depends on the starting price. 10. Examples: 25% off \$200 = \$150; or \$30 off then \$20 off = \$150.

Worksheet 6 • Profit, Loss & Discount Challenge

Use multiple steps and explain your reasoning.

A. Challenge

1. An item costs \$240. It is marked up by 25% and then discounted by 20%. Find the marked price, sale price and actual profit.

2. A shop buys an item for \$160 and wants a profit of 25% after giving a 20% discount. What marked price should it set?

3. A \$500 item is sold at a 12% loss. Find the selling price.

4. An item is sold for \$276 at a 15% profit. Find its cost price.

B. Mixed problems

5. A store buys 50 mugs for \$6 each. It sells 40 mugs at \$10 each and the remaining mugs at \$4 each. Find the overall profit or loss.

6. A jacket marked \$240 is discounted by 25%. The shop originally paid \$150 for it. Find the sale price and profit.

7. A bicycle costs \$400. The shop wants a 20% profit but offers a 10% discount on its marked price. What marked price should it use?

C. Think like a mathematician

8. Explain why a 20% profit followed by a 20% discount does not necessarily return an item to its original cost.

9. Give an example where a shop makes a profit even after giving a discount.

10. Create your own profit/loss problem with a percentage and solve it.

Worksheet 6 • Profit, Loss & Discount Challenge

Answer Key

A

1. Marked price \$300; sale price \$240; actual profit \$0. 2. Marked price \$250: 20% off gives \$200, which is a 25% profit on \$160. 3. \$440. 4. \$240.

B

5. Cost \$300; revenue \$400 + \$20 = \$420; profit \$120. 6. Sale price \$180; profit \$30. 7. Marked price \$533.33... because 90% of marked price must equal \$480. A practical whole-cent marked price is \$533.34, giving a sale price of \$480.006, approximately \$480.

C

8. Example: $\$100 + 20\% = \120 ; 20% off $\$120 = \96 , not \$100. 9. Example: CP \$60, marked price \$100, 20% discount $\rightarrow$ \$80 SP, still \$20 profit. 10. Answers vary; check calculations.