

GRADE 6

Mixed Word Problems

Complete Multi-Topic Problem-Solving Pack

6 Worksheets • Multi-Step Reasoning • Separate Answer Keys

Worksheet 1 — Number & Operations

Instructions: Identify the operations you need, show your working, include units where appropriate, and check whether your answer is reasonable.

1. A school orders 24 boxes of pencils. Each box contains 36 pencils. After giving 275 pencils to students, how many pencils remain?
2. A charity collected \$4,860 and spent \$1,275 on supplies. The rest was shared equally among 5 community projects. How much did each project receive?
3. A factory makes 2,450 notebooks each day for 6 days. It packs them equally into 35 cartons. How many notebooks are in each carton?
4. A library has 8,400 books. It donates 15% of them. How many books remain?
5. A shop has 3,750 stickers. It sells $\frac{2}{5}$ of them. How many stickers are left?
6. A number is multiplied by 7 and then 18 is added. The result is 102. What is the number?
7. A farmer packs 1,728 apples equally into 24 crates. Three crates are damaged and removed. How many apples remain in the usable crates?
8. Estimate $4,982 \times 19$ by rounding each factor to a convenient number. Then calculate the exact answer.

Answer Key — Number & Operations

1. 589 pencils.
2. \$717.
3. 420 notebooks.
4. 7,140 books.
5. 2,250 stickers.
6. 12.
7. 1,512 apples.
8. Estimate: $5,000 \times 20 = 100,000$. Exact: 94,658.

Worksheet 2 — Fractions, Decimals & Percentages

Instructions: Identify the operations you need, show your working, include units where appropriate, and check whether your answer is reasonable.

1. A water tank holds 2,400 L. It is $\frac{3}{8}$ full. How much water is in the tank?
2. A jacket costs \$80 and is discounted by 15%. Find the discount and the sale price.
3. A recipe needs 0.75 kg of flour. How much flour is needed for 6 batches?
4. A student scores 42 out of 60. What percentage did the student score?
5. A shop increases a \$250 price by 12%. What is the new price?
6. A family spends 0.35 of a \$2,000 monthly budget on housing. How much is spent on housing?
7. A class has 32 students. $\frac{5}{8}$ choose art club. How many students choose art club?
8. A number is 40% of 250. What is the number?

Answer Key — Fractions, Decimals & Percentages

1. 900 L.
2. Discount \$12; sale price \$68.
3. 4.5 kg.
4. 70%.
5. \$280.
6. \$700.
7. 20 students.
8. 100.

Worksheet 3 — Ratio, Rate & Proportion

Instructions: Identify the operations you need, show your working, include units where appropriate, and check whether your answer is reasonable.

1. The ratio of red to blue beads is 3:5. There are 64 beads altogether. How many are red and how many are blue?
2. A car travels 180 km in 3 hours at a constant speed. How far will it travel in 5 hours?
3. A recipe uses rice and water in the ratio 2:3. If 600 mL of water is used, how much rice is needed?
4. A map scale is 1 cm : 5 km. Two towns are 7.5 cm apart on the map. What is the actual distance?
5. Four notebooks cost \$14. At the same rate, what do 10 notebooks cost?
6. A class has boys:girls = 4:5. There are 36 boys. How many girls are there?
7. A machine produces 480 parts in 8 hours. At the same rate, how many parts will it produce in 13 hours?
8. A drink is made by mixing concentrate and water in the ratio 1:4. How much water is needed for 750 mL of concentrate?

Answer Key — Ratio, Rate & Proportion

1. Red 24; blue 40.
2. 300 km.
3. 400 mL rice.
4. 37.5 km.
5. \$35.
6. 45 girls.
7. 780 parts.
8. 3,000 mL water.

Worksheet 4 — Measurement, Geometry & Volume

Instructions: Identify the operations you need, show your working, include units where appropriate, and check whether your answer is reasonable.

1. A rectangular garden is 18 m long and 12 m wide. Find its perimeter and area.
2. A cuboid box measures 10 cm $\times$ 8 cm $\times$ 6 cm. Find its volume.
3. A rectangular floor is 7.5 m by 4 m. Find its area.
4. A water tank has capacity 2,500 L. It currently contains 1,675 L. How many more litres are needed to fill it?
5. A triangular sign has base 14 cm and perpendicular height 9 cm. Find its area.
6. A square playground has perimeter 96 m. Find the side length and area.
7. A recipe uses 350 mL of milk. How many litres are needed for 8 batches?
8. A rectangular field has area 540 m² and length 30 m. Find its width and perimeter.

Answer Key — Measurement, Geometry & Volume

1. Perimeter 60 m; area 216 m².
2. 480 cm³.
3. 30 m².
4. 825 L.
5. 63 cm².
6. Side 24 m; area 576 m².
7. 2.8 L.
8. Width 18 m; perimeter 96 m.

Worksheet 5 — Time, Speed & Real Life

Instructions: Identify the operations you need, show your working, include units where appropriate, and check whether your answer is reasonable.

1. A train leaves at 08:45 and arrives at 13:20. How long is the journey?
2. A cyclist travels 54 km in 3 hours. Find the average speed.
3. A bus travels at 60 km/h for 2.5 hours. How far does it travel?
4. A flight departs at 21:35 and lasts 7 h 45 min. What time does it arrive the next day?
5. A student spends 35 minutes travelling to school and 40 minutes returning. How much travel time is this in 5 school days?
6. A runner completes 12 km in 1 h 20 min. Find the average speed in km/h.
7. A journey is 315 km. A car travels the first 180 km at 60 km/h. How much time is needed for the remaining 135 km at 45 km/h?
8. A meeting starts at 14:25 and lasts 1 h 50 min. What time does it finish?

Answer Key — Time, Speed & Real Life

1. 4 h 35 min.
2. 18 km/h.
3. 150 km.
4. 05:20 the next day.
5. 375 minutes = 6 h 15 min.
6. 9 km/h.
7. $3\text{ h} + 3\text{ h} = 6\text{ h}$.
8. 16:15.

Worksheet 6 — Multi-Step Challenge

Instructions: Identify the operations you need, show your working, include units where appropriate, and check whether your answer is reasonable.

1. A school buys 18 packs of 25 notebooks at \$4 per pack. It receives a \$60 discount. What is the final cost?
2. A shop buys an item for \$240 and marks it up by 25%. It then gives a 10% discount on the marked price. What is the final selling price?
3. A tank is $\frac{2}{3}$ full and contains 1,800 L. How much more water is needed to fill it?
4. A class trip costs \$38 per student plus a fixed bus fee of \$420. If 30 students attend, what is the total cost and cost per student?
5. A rectangular field is 45 m by 28 m. A path 2 m wide runs all around the inside edge. Find the area of the path.
6. A cyclist travels 24 km at 12 km/h and then 36 km at 18 km/h. Find the total journey time and average speed for the whole journey.
7. A school has 720 students. 35% are in clubs. Of those students, $\frac{2}{5}$ are in sports clubs. How many students are in sports clubs?
8. A number is increased by 20%, then decreased by 20%. Is the final number equal to the original? Demonstrate using 250.

Answer Key — Multi-Step Challenge

1. $18 \times \$4 = \72 ; minus $\$60 = \12 .
2. Marked price $\$300$; after 10% discount = $\$270$.
3. Full capacity = 2,700 L; needed = 900 L.
4. Student costs = $\$1,140$; total = $\$1,560$; per student = $\$52$.
5. Inner dimensions 41 m $\times$ 24 m. Field area 1,260 m²; inner area 984 m²; path area = 276 m².
6. Time = 2 h + 2 h = 4 h. Average speed = $60 \text{ km} \div 4 \text{ h} = 15 \text{ km/h}$.
7. $720 \times 0.35 = 252$; $252 \times \frac{2}{5} = 100.8$, so the data do not produce a whole number of students. This is not a suitable real-world question as written.
8. $250 \times 1.2 = 300$; $300 \times 0.8 = 240$. Final is $\$10$ less than original, so not equal.