

Grade 3 · Two-Step Word Problems and Patterns · Worksheet Answer Key

Common Core 3.OA.D.8, 3.OA.D.9 · mathovore.fr

Every solution shows each step, the equation with its letter, and a check. Compare your work step by step. If your answer is different, find the step where the numbers changed and try again.

Grade 3 Common Core: 3.OA.D.8 · 3.OA.D.9

Problem 1: Find the unknown sum

Subtract: $n = 61 - 24 = 37$.

Check: $24 + 37 = 61$.

$$n = 37$$

Problem 2: Find the unknown factor

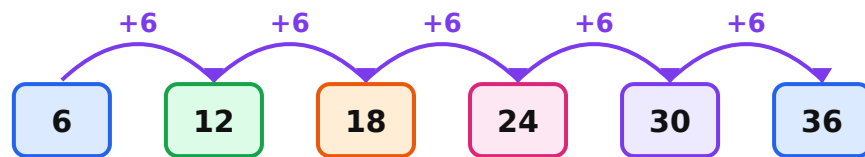
Divide: $b = 56 \div 7 = 8$.

Check: $7 \times 8 = 56$.

$$b = 8$$

Problem 3: Add a rule

$24 + 6 = 30$ and $30 + 6 = 36$.



The completed pattern.

The missing numbers are **30 and 36**.

Problem 4: Estimate a sum

64 rounds to 60 and 27 rounds to 30. $60 + 30 = 90$.

Exact: $64+27=91$.

The estimate is **90** and the exact sum is **91**.

Problem 5: Estimate a difference

481 rounds to 500 and 196 rounds to 200. $500-200=300$.

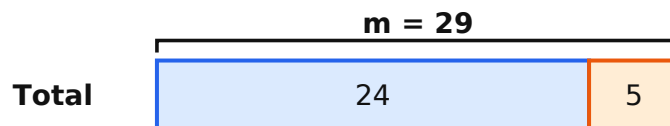
Exact: $481-196=285$.

The estimate is **300** and the exact difference is **285**.

Problem 6: Write a two-step equation

The equation is $m=3\times 8+5$.

Multiply first: $3\times 8=24$. Then add: $24+5=29$.



The total is 29.

Ava has **29 marbles**.

Problem 7: Even or odd product

6×7 means 7 groups of 6. Each group of 6 makes 3 pairs, so the whole amount is made of pairs with none left over.

The product is **even**. Check: $6 \times 7 = 42$.

Problem 8: Fill in the pattern

$21-14=7$, so the rule is add 7.

$28+7=35$ and $42+7=49$.

The missing numbers are **35 and 49**. The rule is **add 7**.

Problem 9: Count down by a rule

$90-81=9$, so the rule is subtract 9.

$72-9=63$ and $54-9=45$.

The missing numbers are **63 and 45**. The rule is **subtract 9**.

Problem 10: Doubling in the table

The blue part is $2 \times 7 = 14$ and the orange part is also 14.

$$4 \times 7 = 14 + 14 = 28.$$

$$4 \times 7 = 28$$

Problem 11: Pattern in the 5s

The multiples are 5, 10, 15, 20, 25, 30, 35, 40.

The ones digits are 5, 0, 5, 0, 5, 0, 5, 0. **They switch between 5 and 0**. Odd multiples (5 times 1, 3, 5, 7) end in 5. Even multiples end in 0.

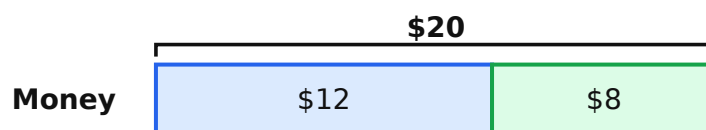
Problem 12: Order of operations

- a. Multiply first: $3 \times 5 = 15$. Then add: $4 + 15 = 19$. The value is **19**.
- b. Parentheses first: $4 + 3 = 7$. Then multiply: $7 \times 5 = 35$. The value is **35**.

Problem 13: Change from a \$20 bill

The equation is $c = 20 - 3 \times 4$.

$$3 \times 4 = 12, \text{ then } 20 - 12 = 8.$$



The change is \$8.

Mei gets **\$8** in change.

Problem 14: Rows of chairs

The equation is $c = 6 \times 5 + 7$.

$$6 \times 5 = 30, \text{ then } 30 + 7 = 37.$$

There are **37 chairs**.

Problem 15: Crayons given away

The equation is $r = 5 \times 8 - 13$.

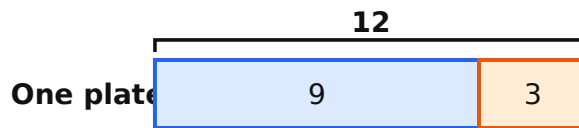
$5 \times 8 = 40$, then $40 - 13 = 27$.

27 crayons are left.

Problem 16: Cookies on plates

The equation is $p = 36 \div 4 + 3$.

$36 \div 4 = 9$, then $9 + 3 = 12$.



Each plate has $9 + 3 = 12$ cookies.

Each plate has **12 cookies**.

Problem 17: Beads shared equally

The equation is $b = (18 + 14) \div 4$. Parentheses come first.

$18 + 14 = 32$, then $32 \div 4 = 8$.

Each friend gets **8 beads**.

Problem 18: Estimate, then solve

48 rounds to 50 and 37 rounds to 40. Estimate: $50 + 40 = 90$.

Exact: $48 + 37 = 85$.

The exact total, **85 jars**, is close to the estimate of 90, so it is reasonable.

Problem 19: Pages left

The equation is $p = 70 - (25 + 18)$.

$25 + 18 = 43$, then $70 - 43 = 27$.

27 pages are left.

Problem 20: Road trip miles

The equation is $m = 100 - (45 + 38)$.

$45 + 38 = 83$, then $100 - 83 = 17$.

17 miles are left.

Problem 21: Little League players

The equation is $p = 6 \times 8 - 14$.

$6 \times 8 = 48$, then $48 - 14 = 34$.

34 players are left.

Problem 22: Pumpkins and a basket

The equation is $c = 20 - (3 \times 5 + 4)$.

$3 \times 5 = 15$, then $15 + 4 = 19$, then $20 - 19 = 1$.

Maya gets **\$1** in change.

Problem 23: Find the mistake

Sam added $5 + 4 = 9$ first and then multiplied $9 \times 2 = 18$. With no parentheses, multiplication comes first.

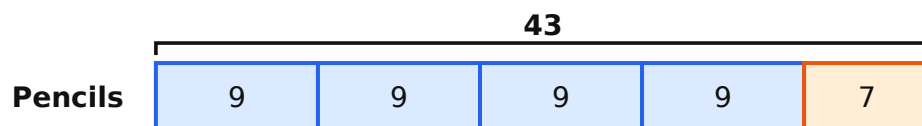
$4 \times 2 = 8$, then $5 + 8 = 13$.

The correct value is **13**.

Problem 24: Boxes of pencils

The equation is $4 \times p + 7 = 43$.

Undo the adding: $43 - 7 = 36$. Undo the multiplying: $36 \div 4 = 9$.



Check: $4 \times 9 + 7 = 43$.

Check: $4 \times 9 + 7 = 36 + 7 = 43$.

Each box has $p=9$ pencils.