Number Sense & Calculations

Rounding

≥ 5 round UP, < 5 stay the same

Round 4 683 to the nearest 100
Hundreds digit 6, next digit (tens) 8
8 ≥ 5, so round UP
Answer: 4 700

Round 5.847 to 1 decimal place
1st decimal digit 8, next digit 4
4 < 5, so stay the same
Answer: 5.8

Round 0.00372 to 2 sig. figs.
First non-zero digit 3, next digit 7
7 ≥ 5, so round UP
Answer: 0.0037

Place Value & Ordering

The value of a digit depends on its position:

Th	H	T	O	.	th
3	4	7	2		5

4 means 400 (hundreds) · 7 means 70 (tens) · 5 means 0.5 (tenths)

Ordering negative numbers:

-5 -4 -3 -2 -1 0 1 2 3 4 5

Order: -3, 5, -7, 2, -1
Find each on the number line
Read left to right (smallest first)
Answer: −7, −3, −1, 2, 5

Key Words

Integer: whole number e.g. −5, 0, 12
Decimal: has digits after the point
Place value: value of digit by position
Rounding: replacing with a round number
Remainder: left over after dividing
BIDMAS: order of operations
Commutative: 3+5 = 5+3 (+ and × only)
Associative: (2+3)+4 = 2+(3+4)

Adding & Subtracting

Line up place value. Decimals: line up the point.

3 456 + 1 278
Align digits by place value, right to left
6+8=14: write 4, carry 1 · 5+7+1=13: write 3, carry 1
Answer: 4 734

12.6 + 5.37
Line up decimal points, pad with zero: 12.60
Add columns right to left
Answer: 17.97

5 200 - 3 847
Align digits, work right to left
Exchange (borrow) where needed
Answer: 1 353

Multiplying

× 10 / 100 / 1000: digits shift LEFT.

246 × 38
246 × 8 = 1 968
246 × 30 = 7 380 · Add: 1 968 + 7 380
Answer: 9 348

3.4 × 1.2
Ignore decimal: 34 × 12 = 408
1 + 1 = 2 decimal places total
Answer: 4.08

56 × 1000 and 0.07 × 100
Shift digits 3 left: 56 000
Shift digits 2 left: 7
Answer: 56 000 and 7

Dividing

÷ 10 / 100 / 1000: digits shift RIGHT.

952 ÷ 4
9÷4 = 2 rem 1 · 15÷4 = 3 rem 3
32÷4 = 8
Answer: 238

73 ÷ 4 (decimal answer)
7÷4=1 rem 3, 33÷4=8 rem 1
Add decimal point, 10÷4=2 rem 2, 20÷4=5
Answer: 18.25

3.6 ÷ 0.4
Multiply both by 10: 36 ÷ 4
Short division
Answer: 9

Number Sense & Calculations

(continued)

Negative Numbers

Adding & Subtracting: + (−) = subtract, − (−) = add

Calculate −3 + (−5)

Adding negative = subtracting: −3 − 5

Answer: −8

Calculate 2 − (−6)

Subtracting negative = adding: 2 + 6

Answer: 8

Negative Numbers

Multiplying & Dividing: same signs positive, different signs negative

(−4) × (−6)

4 × 6 = 24, same signs (both negative)

Answer: +24

(−15) ÷ 3

15 ÷ 3 = 5, different signs

Answer: −5

Negative Numbers

Mixed practice

Calculate −7 + 4

Start at −7, move 4 right

Answer: −3

Calculate $(-3)^2$

(−3) × (−3), same signs positive

Answer: +9

Order of Operations (BIDMAS)

Always work in this order:

B I D M A S

Brackets · Indices · Divide · Multiply · Add · Subtract

$3 + 4^2 \times (6 - 2)$

B: (6−2)=4 · I: 4^2=16

M: 16×4=64 · A: 3+64

Answer: 67

$20 \div 4 + 3 \times 2$

No brackets or indices

D: 20÷4=5 · M: 3×2=6 · A: 5+6

Answer: 11

$(2 + 3)^2 - 4 \times 2$

B: (2+3)=5 · I: 5^2=25

M: 4×2=8 · S: 25−8

Answer: 17

Try It Yourself!

1. Round 7 254 to the nearest thousand.
2. Calculate 8 003 − 2 746
3. Calculate 354 × 27
4. Calculate 185 ÷ 4 (decimal answer)
5. Calculate (−5) × 3
6. Calculate 3 − (−8)
7. Work out $(5+3)^2 - 10$
8. Work out 18 ÷ 3 + 4 × 5