Unit 3 · Decimals and Equations Cheat Sheet

Unit 3 focus: rounding, estimating and measures of center

1 ROUNDING DECIMALS

Find the place, look one digit to the right: 5 or more rounds up.

Example: Round 6.4782 to the nearest hundredth.
Hundredths digit: 7; next digit 8 rounds up

Answer: 6.48

2 ESTIMATING PRODUCTS AND QUOTIENTS

Round to compatible numbers first.

Example: Estimate 39.6×5.1 and $63.5 \div 8.2$.
Round: 40×5 and $64 \div 8$

Answer: ≈ 200 and ≈ 8

3 MEASURES OF CENTER

Measure	How to find it
Mean	sum ÷ number of values
Median	middle value of ordered data
Mode	most frequent value

Data 2.5, 3, 3, 4.5: mean 3.25, median 3, mode 3

4 MEAN OF DECIMAL DATA

Add, then divide by the count.

Example: Times: 12.4, 11.8, 13.1, 12.7 s
Sum: 50.0
Divide by 4: 12.5

Answer: 12.5 s

5 USING FORMULAS

Substitute the known values into the formula.

Example: $d = rt$ with $r = 55.5$ mph, $t = 2.4$ h
Multiply: 55.5×2.4

Answer: 133.2 miles

6 QUICK REMINDERS & COMMON MISTAKES

✓ Do remember

- Line up decimal points to add or subtract.
- Count decimal places when multiplying.
- An outlier changes the mean more than the median.

✗ Common mistakes

- Rounding 6.4782 to 6.47: the 8 rounds the 7 up: 6.48
- Median of unordered data: order first
- Forgetting units in formulas: write units every step

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More practice: formulas, decimal equations and the metric system

1 ADDING OR SUBTRACTING DECIMALS

Undo the operation on both sides.

Example: x + 3.75 = 10.2
Subtract 3.75: x = 10.2 − 3.75
Answer: x = 6.45

2 MULTIPLYING OR DIVIDING DECIMALS

Divide both sides by the coefficient.

Example: 1.6m = 9.6
Divide: $m = \frac{9.6}{1.6}$
Answer: m = 6

3 DIVISION EQUATIONS

Multiply both sides by the divisor.

Example: $\frac{k}{0.4} = 15$
Multiply by 0.4: k = 15 × 0.4
Answer: k = 6

4 METRIC PREFIXES

Prefix	Meaning
kilo- (k)	1,000
centi- (c)	$\frac{1}{100}$
milli- (m)	$\frac{1}{1000}$

Bigger unit → smaller unit: multiply. Smaller → bigger: divide.

5 METRIC CONVERSIONS

Convert	Answer
3.2 km to m	3,200 m
450 cm to m	4.5 m
2.5 L to mL	2,500 mL
760 mg to g	0.76 g

6 CHECK YOURSELF

- Did I follow the order of operations?
- Did I do the same thing to both sides?
- Did I check my answer in the original problem?
- Does my answer have the right sign and units?