

Lesson 5 Multi-Step Problem Solving

Multi-Step Example

The table shows the distance and time for each phase of a submersible's trial run. Which expression represents the average speed of the four phases? 7.NS.2b, MP 1

- (A) 3 m/s
- (B) -3 m/s
- (C) -3.5 m/s
- (D) 3.5 m/s

Distance (m)	Time (sec)
-15	5
-30	6
-5	5
-50	10

Use a problem-solving model to solve this problem.

1 Understand

Read the problem. Circle the information you know.
Underline what the problem is asking you to find.

2 Plan

What will you need to do to solve the problem? Write your plan in steps.

Step 1 Determine the speed for each phase of the trial run.

Step 2 Add the speeds and divide to find the average speed.

3 Solve

Use your plan to solve the problem. Show your steps.

$$\text{Phase 1: } -15 \div 5 = -3$$

$$\text{Phase 2: } -30 \div 6 = -5$$

$$\text{Phase 3: } 5 \div 5 = 1$$

$$\text{Phase 4: } -50 \div 10 = -5$$

The average speed is $\frac{(-3) + (-5) + (1) + (-5)}{4}$ or -3 .

So, the average speed of the submersible is _____ meters per second.

The correct answer is _____. Fill in that answer choice.

4 Check

How do you know your solution is accurate?

Read to Succeed!



To find the average, add the values and divide by the number of values.

Lesson 5 *(continued)*

Use a problem-solving model to solve each problem.

- 1 Dakota earns the money shown in the table. After buying 4 chairs, she has \$30 left. How much did Dakota pay for each chair?
7.NS.2b, MP 1

Job	Amount Earned
Babysitting	\$120
Pet sitting	\$65
Dog walking	\$45

- (A) \$22.50
(B) \$50
(C) \$47.50
(D) \$200

- 3 Basir played a game, starting with a certain number of points. He lost 6 points each of the first three rounds. He gained 3 points and then gained 7 points the next two rounds. Then he lost 8 points each of two rounds. His final score is -9 . How many points did he have in the beginning of the game? 7.NS.3, MP 2
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- 2 The table below shows the temperature for a town over 5 consecutive days. Use the data to find the average temperature. Then convert the average to degrees Fahrenheit using the formula below. 7.NS.3, MP 4

$$F = \frac{9C + 160}{5}$$

Day	Temperature (C)
1	-19°C
2	-18°C
3	-15°C
4	-15°C
5	-18°C

- 4 **H.O.T. Problem** Susan divides two negative integers. She divides the quotient by a positive integer and multiplies the quotient by a negative integer. Is the result positive or negative? Explain. 7.NS.2, MP 8
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