

Unit 10 ...Lesson 6.

Explain the
Reasonableness of
a solution.



Learning Objectives



By the end of this lesson, you will be able to :

Use mental computation and estimation strategies to assess the reasonableness of answers to a two-step problem..





How can you estimate to determine the reasonableness of an answer? Circle the reasonable answer.

1. At the train station, Matt buys breakfast for \$4 and 3 weekly train passes for \$9 each. How much does Matt spend at the station?

A. \$21

☒ B. \$31

C. \$18

D. \$55

$$3 \times 9 = 27$$
$$27 + 4 = \$ 31$$

2. Ava shares 42 stickers evenly among 6 friends. Then she gives each friend 4 more stickers. How many stickers does each friend receive?

☒ A. 11 stickers

B. 25 stickers

C. 5 stickers

D. 33 stickers

$$42 \div 6 = 7$$
$$7 + 4 = 11 \text{ stickers}$$



Is the answer reasonable? Show your thinking.

3. Maria walks 3 minutes to the bus stop. Then she rides the bus 8 minutes to get to school. She does this 5 days per week. She says she spends 55 minutes traveling to school

The answer is reasonable $\rightarrow 3 + 8 = 11$
 $11 \times 5 = 55$ minutes



4. Marcus spends \$36 on sunflowers and buys 4 zinnia plants for his garden. Marcus says he spent \$98 on plants.

Flower Prices

Sunflowers	\$6
Daisies	\$7
Zinnias	\$8

The answer is unreasonable $\rightarrow 4 \times 8 = 32$
 $\$32 + \$36 = \$68$ its not \$98



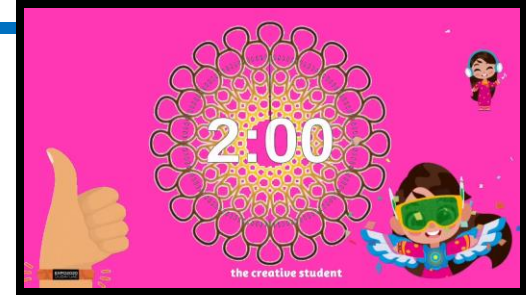
Solve. Then use an estimate to show that your answer is reasonable.

5. John has 7 packages of pencils. There are 9 pencils in each package. He donates 49 pencils to the school supply closet. How many pencils does John have left?

$$7 \times 9 = 63 \rightarrow 63 - 49 = 14 \text{ pencils.}$$

- 6 Evelyn has 80 beads. She uses 24 for a necklace. She wants to use the rest to make 8 bracelets with the same number of beads on each. How many beads will each bracelet have?

$$80 - 24 = 56 \rightarrow 56 \div 8 = 7 \text{ beads.}$$

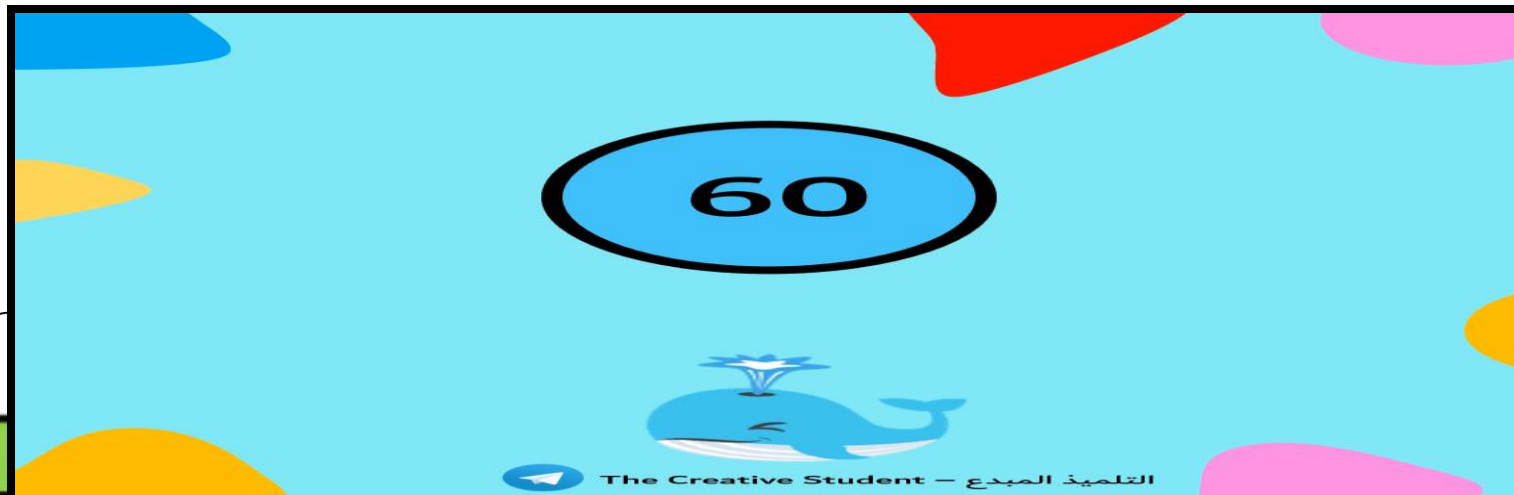




7. STEM Connection Hiro designs a boat to carry research supplies. His boat carries 6 crates filled with 9 boxes each. It also carries 5 boxes of snacks. He thinks the boat carries 59 boxes. Is his answer reasonable?



Yes .. $6 \times 9 = 54 \rightarrow 54 + 5 = 59$ boxes





8. Extend Your Thinking Kara has a box of 30 crackers. She eats 3 and wants to give the rest to 5 friends to share equally. She estimates there are enough for each friend to get 5 crackers. Explain Kara's estimate.