Sean and his crew operate a fishing charter company. They caught a blue marlin and an amberjack. The weight of the blue marlin was 12 times as great as the weight of the amberjack. The combined weight of both fish was 1,014 pounds. How much did each fish weigh?

**Essential Question**
How can the strategy *draw a diagram* help you solve a division problem?

**Unlock the Problem**

**Real World**

**Read**

<table>
<thead>
<tr>
<th>What do I need to find?</th>
<th>What information am I given?</th>
<th>Plan</th>
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<tr>
<td>I need to find __________ _______</td>
<td>I know that they caught a total of ______ pounds of fish and the weight of the blue marlin was _____ times as great as the weight of the amberjack.</td>
<td>I can use the strategy ______ and then divide. I can draw and use a strip diagram to write the division problem that helps me find the weight of each fish.</td>
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**Solve**

I will draw one box to show the weight of the amberjack. Then I will draw a strip of 12 boxes of the same size to show the weight of the blue marlin. I can divide the total weight of the two fish by the total number of boxes.

```
  13
_____
1,014
-91
104
-12
---
  
```

Write the quotient in each box. Multiply it by 12 to find the weight of the blue marlin.

So, the amberjack weighed ________ pounds and the blue marlin weighed ________ pounds.
Jason, Murray, and Dana went fishing. Dana caught a red snapper. Jason caught a tuna with a weight 3 times as great as the weight of the red snapper. Murray caught a sailfish with a weight 12 times as great as the weight of the red snapper. If the combined weight of the three fish was 208 pounds, how much did the tuna weigh?

- So, the tuna weighed _____ pounds.

- How can you check if your answer is correct? ________________

  _____________________________________________________________________________

  _____________________________________________________________________________

  _____________________________________________________________________________

  _____________________________________________________________________________
1. Paula caught a tarpon with a weight that was 10 times as great as the weight of a permit fish she caught. The total weight of the two fish was 132 pounds. How much did each fish weigh?

First, draw one box to represent the weight of the permit fish and ten boxes to represent the weight of the tarpon.

Next, divide the total weight of the two fish by the total number of boxes you drew. Place the quotient in each box.

Last, find the weight of each fish.

The permit fish weighed ________ pounds. The tarpon weighed ________ pounds.

2. What if the weight of the tarpon was 11 times the weight of the permit fish, and the total weight of the two fish was 132 pounds? How much would each fish weigh?

permit fish: ________ pounds  tarpon: ________ pounds

3. Multi-Step The crew on a fishing boat caught four fish that weighed a total of 1,092 pounds. The tarpon weighed twice as much as the amberjack and the white marlin weighed twice as much as the tarpon. The weight of the tuna was 5 times the weight of the amberjack. How much did each fish weigh?

4. Multi-Step A fish market bought two swordfish at a rate of $13 per pound. The cost of the larger fish was 3 times as great as the cost of the smaller fish. The total cost of the two fish was $3,952. How much did each fish weigh?
5. An ostrich at the zoo weighs 3 times as much as Mark’s pet dog. Together, the ostrich and the dog weigh 448 pounds. How much does the ostrich weigh?

- **A** 149 pounds
- **B** 112 pounds
- **C** 224 pounds
- **D** 336 pounds

6. **Use Diagrams** A student drew this diagram to solve a word problem. Which statement matches what she drew?

   - **A** A man weighs 12 times as much as a cat.
   - **B** A cat weighs 12 times as much as a man.
   - **C** A man weighs 13 times as much as a cat.
   - **D** A cat weighs 13 times as much as a man.

7. **Multi-Step** A juice factory uses 4,650 pounds of pears and apples a day. The factory uses 30 times as much apples than pears. How many pounds of pears and how many pounds of apples does the factory use each day?

   - **A** 93 lb pears and 4,557 lb apples
   - **B** 150 lb pears and 4,500 lb apples
   - **C** 155 lb pears and 4,495 lb apples
   - **D** 310 lb pears and 4,340 lb apples

8. **Apply** Captain James offers a deep-sea fishing tour. He charges $2,940 for a 14-hour trip. How much does each hour of the tour cost?

   - **A** $201
   - **B** $138
   - **C** $210
   - **D** $294
Eddie’s Moving Company moved 3 boxes out of Mrs. Diaz’s house. The box labeled “Kitchen” was 4 times heavier than the box labeled “Bedroom.” The box labeled “Library” was 14 times heavier than the box marked “Bedroom.” If the combined weight of the boxes was 817 pounds, how much did the box labeled “Kitchen” weigh?

1. What do I need to find?

2. What information am I given?

3. Draw a diagram.

4. Solve.

5. An athlete ran 1,200 laps around a track over a two-month period. He ran 4 times the number of laps in the second month than he ran in the first month. How many laps did the athlete run the first month?

6. The diagram below compares the weights of a boy and a fish. Tell what the diagram means.

So, the box labeled “Kitchen” weighed _____ pounds.
Lesson Check

Fill in the bubble completely to show your answer.

7. Yani drew this diagram to solve a word problem. Which statement matches what she drew?

hamster duck

A  A hamster weighs 7 times as much as a duck.
B  A duck weighs 7 times as much as a hamster.
C  A hamster weighs 6 times as much as a duck.
D  A duck weighs 6 times as much as a hamster.

8. An oak tree in Jake’s yard is 13 times taller than a model tree that he is making for a performance set. Together, the oak tree and model tree are 112 feet tall. How tall is the model tree?

A  8 feet
B  14 feet
C  26 feet
D  96 feet

9. Lori’s book has 6 times more pages than Sal’s book. The combined number of pages for the two books is 532. How many pages does Lori’s book have?

A  76
B  88
C  456
D  532

10. Raj drives his car 5 times farther than Gary drives his car. Together they drive 624 miles. How many miles does Raj drive?

A  520 miles
B  416 miles
C  104 miles
D  312 miles

11. Multi-Step The total number of books in the community’s mobile library is 1,155. There are 20 times more nonfiction books than fiction books. How many fiction books and how many nonfiction books are in the mobile library?

A  110 fiction and 1,045 nonfiction
B  55 fiction and 1,100 nonfiction
C  55 fiction and 1,045 nonfiction
D  1,100 fiction and 55 nonfiction

12. Multi-Step Charlie’s weight is 5 times as great as the weight of his little sister, Tali. If the total weight of the two children is 132 pounds, how much does each child weigh?

A  Tali: 22 pounds; Charlie: 110 pounds
B  Tali: 110 pounds; Charlie: 22 pounds
C  Tali: 44 pounds; Charlie: 88 pounds
D  Tali: 88 pounds; Charlie: 44 pounds
Module 2 Assessment

Vocabulary

Choose the best term from the box.

1. You can use _________________ to estimate quotients because they are easy to compute with mentally. (p. 53)

2. To decide where to place the first digit in the quotient, you can estimate or use _________________. (p. 37)

Concepts and Skills

Estimate. Then find the product. TEKS 5.3.A, 5.3.B

3. Estimate: ____________

   576
   × 3

4. Estimate: ____________

   219
   × 6

5. Estimate: ____________

   72
   × 37

6. Estimate: ____________

   359
   × 18

7. Estimate: ____________

   804
   × 37

Use compatible numbers to estimate the quotient. TEKS 5.3.A

8. 522 ÷ 60

9. 1,285 ÷ 32

10. 6,285 ÷ 89

Divide. TEKS 5.3.C

11. 156 ÷ 13

12. 318 ÷ 53

13. 1,562 ÷ 34

14. 4,024 ÷ 68
15. Dylan’s dog weighs 12 times as much as his pet rabbit. The dog and rabbit weigh 104 pounds altogether. How much does Dylan’s dog weigh?  

A  88 pounds  
B  96 pounds  
C  104 pounds  
D  8 pounds

16. Tickets for the basketball game cost $14 each. If the sale of the tickets brought in $2,212, how many tickets were sold?  

A  172  
B  158  
C  150  
D  168

17. Adele earns $194 every two weeks delivering newspapers. She spends $30 of each paycheck and saves the rest. If she is paid 26 times this year, how much will Adele save?  

A  $3,244  
B  $4,264  
C  $772  
D  $5,044

18. A local orange grower processes 2,330 oranges from his grove this year. The oranges are packaged in crates that each hold 96 oranges. All but one crate is full. How many oranges are in this last crate? Record your answer and fill in the bubbles on the grid. Be sure to use the correct place value.  

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