

Name _____

Comparison Problems

I Can draw models and write equations to help solve comparison problems.

Florida's B.E.S.T.

- Algebraic Reasoning 4.AR.1.1, 4.AR.2.2, 4.AR.2.1
- Number Sense & Operations 4.NSO.2.1
- Mathematical Thinking & Reasoning MTR.3.1, MTR.4.1, MTR.5.1, MTR.6.1



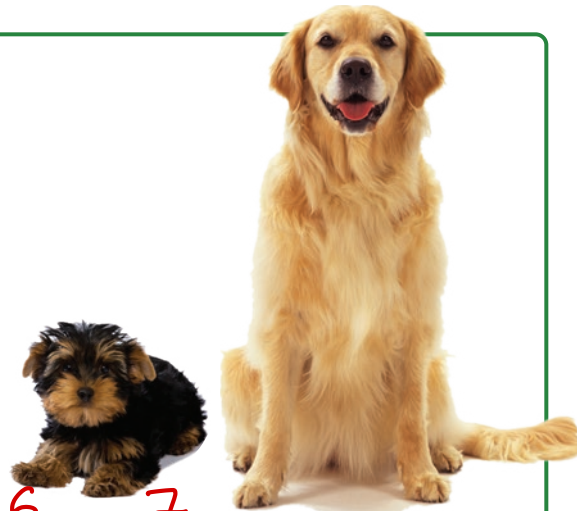
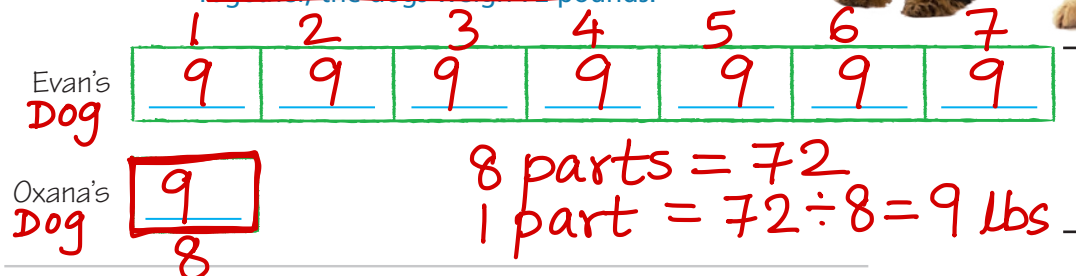
UNLOCK the Problem Real World

Evan's dog weighs 7 ^{multiply} times as much as Oxana's dog. Together, the dogs weigh 72 pounds. How much does Evan's dog weigh?

Example 1 Use a multiplication model.

STEP 1 Draw a model. ~~Let n represent the unknown.~~

~~Think: Let n represent how much Oxana's dog weighs. Together, the dogs weigh 72 pounds.~~



~~**STEP 2** Use the model to write an equation. Find the value of n .~~

~~_____ \times n = _____ Think: There are 8 parts. The parts together equal 72.~~

~~$8 \times$ _____ = 72 Think: 8 times what number equals 72?~~

~~The value of n is 9.~~

~~n is how much _____ weighs.~~

STEP 3 Find how much Evan's dog weighs.

Think: Evan's dog weighs 7 times as much as Oxana's dog.

$$\begin{aligned} \text{Evan's dog} &= \underline{9} \times \underline{7} \quad \text{Multiply.} \\ &= \underline{63} \text{ pounds} \end{aligned}$$

So, Evan's dog weighs 63 pounds.

Math Talk

MTR 4.1 Engage in discussions on mathematical thinking.

How can you tell if you found the correct weight of Evan's dog?

Go Online For more help

To find how many times as much, use a multiplication model. To find how many more or fewer, model the addition or subtraction.

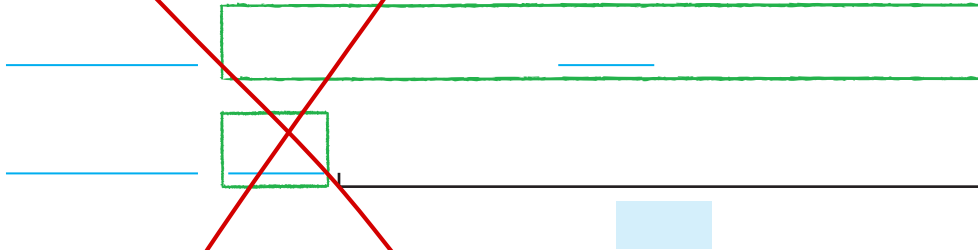
Evan's dog weighs 63 pounds. Oxana's dog weighs 9 pounds. How much more does Evan's dog weigh than Oxana's dog?



Example 2 Use an addition or subtraction model.

STEP 1 Draw a model. Let n represent the unknown.

Think: Let n represent the difference.



STEP 2 Use the model to write an equation. Find the value of n .

$\underline{\quad} - \underline{\quad} = n$ Think: The model shows a difference.

$63 - 9 = \underline{\quad}$ Subtract.

The value of n is $\underline{\quad}$.

n is $\underline{\quad}$.

So, Evan's dog weighs 54 pounds more than Oxana's dog.

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Math Board

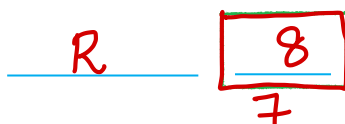
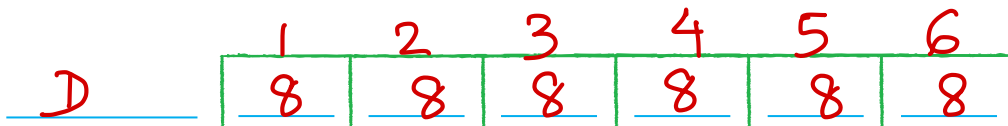
Math Talk

MTR 4.1 Engage in discussions on mathematical thinking.

How do you know which model to use to solve a comparison problem?

1. Maria's ^Ddog weighs 6 times as much as her ^Rrabbit. Together, the pets weigh 56 pounds. What does Maria's dog weigh?

Draw a model. Let n represent the unknown.



$7 \text{ parts} = 56$
 $1 \text{ part} = 56 \div 7 = 8$

Write an equation to find the value of n . $7 \times n = \underline{\quad}$ n is $\underline{\quad}$ pounds.

Multiply to find how much Maria's dog weighs. $8 \times 6 = \underline{48}$

So, Maria's dog weighs 48 pounds.

