PART, WHOLE, PERCENT PROBLEMS PRACTICE

SE Focus
6.5(B)

Find the Mistake

Purpose For each problem in Find the Mistake, a solution has been given, but the solution contains a mistake. Students are to find the mistake, explain it, and provide the correct solution. This kind of analysis will help students focus on the way problems are solved while helping them isolate and avoid the common mistakes sometimes made in part, whole, percent situations.

☐ Teacher-facilitated ☑ Small Groups ☐ Tutoring/Intervention ☐ Centers

Setting Up For Instruction

☐ Make 1 copy of **Part, Whole, Percent Problems Practice** (PG. 5–7) for each student.

How-To Guide

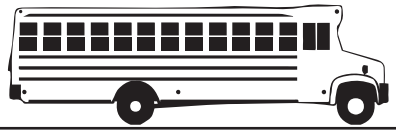
1. Place students in pairs and hand out materials.
2. Have students work together to find and correct the mistakes.

Thought Extenders

- What is the whole?
- What is the part?
- How can you use the whole and part to write a fraction?
- How can you estimate the solution to the problem?
- How can you write a proportion to represent the problem?
- Is your solution reasonable?

PART, WHOLE, PERCENT PROBLEMS PRACTICE

ANSWER KEY

Problem	Problem Worked Wrong!	Correction
1 Jake's class was going on a field trip to the zoo. If there were 30 students in the class and 24 went to the zoo, what percent of the class went to the zoo?	$\frac{24}{30} = \frac{x}{100}$ $125 = x$ 125% of the students went to the zoo.	**What is the mistake?** Solved incorrectly. **Correction:** $\frac{24}{30} = \frac{x}{100}$ $80 = x$ **Solution:** 80% of the students went to the zoo.
2 A survey of the 150 students in the school was taken. It found 60% of the students liked pepperoni pizza. How many of the students liked pepperoni pizza? 	$\frac{60}{150} = \frac{x}{100}$ $40 = x$ 40 students liked pepperoni pizza.	**What is the mistake?** Put percent over whole instead of percent over 100. **Correction:** $\frac{x}{150} = \frac{60}{100}$ $90 = x$ **Solution:** 90 students liked pepperoni pizza.
3 Jolene is in a class of 18 boys and 22 girls. 50% of all the students ride the bus. How many students ride the bus? 	Add the boys and girls together. 18 + 22 = 40 $\frac{40}{x} = \frac{50}{100}$ $80 = x$ 80 students ride the bus.	**What is the mistake?** Mixed up the part and the whole. **Correction:** $\frac{x}{40} = \frac{50}{100}$ $20 = x$ **Solution:** 20 students ride the bus.
4 In the district track meet, 30 boys were running the 400 yard dash. At the end of the race, 10 of the boys beat the old track record. What percent of the boys beat the old track record?	$\frac{x}{30} = \frac{10}{100}$ $3 = x$ 3% of the boys broke the record.	**What is the mistake?** Put the part as percent. **Correction:** $\frac{10}{30} = \frac{x}{100}$ $33\frac{1}{3} = x$ **Solution:** $33\frac{1}{3}$% of the boys broke the record.

PART, WHOLE, PERCENT PROBLEMS PRACTICE

ANSWER KEY

Problem	Problem Worked Wrong!	Correction
5 In the basketball game, the Mavericks made 12 three-point baskets. Their record for three-point baskets made in a game is 48. What percentage of their record three-point baskets did they make? 	$\frac{48}{x} = \frac{12}{100}$ $400 = x$ They made 400% of their record 3-pointers.	**What is the mistake?** Mixed the whole and part and the part and percent. **Correction:** $\frac{12}{48} = \frac{x}{100}$ $25 = x$ **Solution:** They made 25% of their record 3-pointers.
6 Juan got 80% of the problems correct on his test. If there were 40 problems on the test, how many did Juan get right?	$\frac{40}{80} = \frac{x}{100}$ $50 = x$ Juan got 50 of the questions correct.	**What is the mistake?** Mixed up percent and whole. **Correction:** $\frac{x}{40} = \frac{80}{100}$ $32 = x$ **Solution:** Juan got 32 of the questions correct.
7 The science class found only 25% of the plants they planted grew more than 1 inch during the month. If 20 plants grew more than an inch during the month, how many plants had the students planted? 	$\frac{x}{20} = \frac{25}{100}$ $5 = x$ The students planted 5 plants.	**What is the mistake?** Mixed up the part and the whole. **Correction:** $\frac{20}{x} = \frac{25}{100}$ $80 = x$ **Solution:** The students planted 80 plants.
8 The store was selling a special selection of tennis shoes for 40% of the original price. If the shoes were selling for $10.00, what was the original price? 	$\frac{40}{x} = \frac{10}{100}$ $400 = x$ The shoes originally cost $400.	**What is the mistake?** Mixed up the part and the percent. **Correction:** $\frac{10}{x} = \frac{40}{100}$ $25 = x$ **Solution:** The shoes originally cost $25.

ANSWER KEY

9 Fill in the blanks using *part*, *whole*, *percent*, and *100*.

$$\frac{\text{Part}}{\text{Whole}} = \frac{\text{Percent}}{100}$$

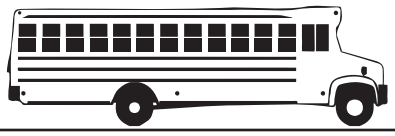
Use the following problem and complete the sentences below. (Some numbers may be used more than once.)

$$\frac{3}{5} = \frac{60}{100}$$

3 is a part of 5 which is the whole on this side of the equation. This is equivalent to 60 which is the part out of 100 and 100 is the whole. Therefore, each side is a part-to-whole relationship, proportional to the other side.

PART, WHOLE, PERCENT PROBLEMS PRACTICE (PG. 1 OF 3)

Name: .....

Problem	Problem Worked Wrong!	Correction
1 Jake's class was going on a field trip to the zoo. If there were 30 students in the class and 24 went to the zoo, what percent of the class went to the zoo?	$\frac{24}{30} = \frac{x}{100}$ $125 = x$ 125% of the students went to the zoo.	**What is the mistake?** **Correction:** **Solution:**
2 A survey of the 150 students in the school was taken. It found 60% of the students liked pepperoni pizza. How many of the students liked pepperoni pizza? 	$\frac{60}{150} = \frac{x}{100}$ $40 = x$ 40 students liked pepperoni pizza.	**What is the mistake?** **Correction:** **Solution:**
3 Jolene is in a class of 18 boys and 22 girls. 50% of all the students ride the bus. How many students ride the bus? 	Add the boys and girls together. 18 + 22 = 40 $\frac{40}{x} = \frac{50}{100}$ $80 = x$ 80 students ride the bus.	**What is the mistake?** **Correction:** **Solution:**
4 In the district track meet, 30 boys were running the 400 yard dash. At the end of the race, 10 of the boys beat the old track record. What percent of the boys beat the old track record?	$\frac{x}{30} = \frac{10}{100}$ $3 = x$ 3% of the boys broke the record.	**What is the mistake?** **Correction:** **Solution:**

PART, WHOLE, PERCENT PROBLEMS PRACTICE (PG. 2 OF 3)

Name: .....

Problem	Problem Worked Wrong!	Correction
5 In the basketball game, the Mavericks made 12 three-point baskets. Their record for three-point baskets made in a game is 48. What percentage of their record three-point baskets did they make? 	$\frac{48}{x} = \frac{12}{100}$ $400 = x$ They made 400% of their record 3-pointers.	**What is the mistake?** **Correction:** **Solution:**
6 Juan got 80% of the problems correct on his test. If there were 40 problems on the test, how many did Juan get right?	$\frac{40}{80} = \frac{x}{100}$ $50 = x$ Juan got 50 of the questions correct.	**What is the mistake?** **Correction:** **Solution:**
7 The science class found only 25% of the plants they planted grew more than 1 inch during the month. If 20 plants grew more than an inch during the month, how many plants had the students planted? 	$\frac{x}{20} = \frac{25}{100}$ $5 = x$ The students planted 5 plants.	**What is the mistake?** **Correction:** **Solution:**
8 The store was selling a special selection of tennis shoes for 40% of the original price. If the shoes were selling for $10.00, what was the original price? 	$\frac{40}{x} = \frac{10}{100}$ $400 = x$ The shoes originally cost $400.	**What is the mistake?** **Correction:** **Solution:**

Name: .....

9 Fill in the blanks using *part*, *whole*, *percent*, and *100*.

_____ = _____

Use the following problem and complete the sentences below. (Some numbers may be used more than once.)

$$\frac{3}{5} = \frac{60}{100}$$

_____ is a part of _____ which is the whole on this side of the equation. This is equivalent to _____ which is the part out of _____ and _____ is the whole. Therefore, each side is a part-to-whole relationship, proportional to the other side.