Problem Solving With Equations

Name _____

Date _____ Period _____

Show a complete solution for each problem.

1. Separate 126 into two parts so that one part is 16 more than the other part. Find each part.

x = one part
$x+16$ = other part

$x+(x+16)=126$
$2x+16=126$
$2x=110$
$x=55$
$x+16=71$

2. Separate 185 into two parts so that one part is 31 more than the other part. Find each part.

3. Separate 46 into two parts so that one part is one more than twice as much as the first part. Find each part.

4. Separate 77 into two parts so that one part is 4 less than twice as much as the other. Find each part.

5. A board 76 inches long is to be cut into two parts so that one part is 5 inches less than twice as long as the other part. Find the length of each part.

6. A board 109 cm long is to be cut into two pieces so that the longer part is 10 cm more than twice as long as the shorter part. Find the length of each part.

7. Rhonda worked three more than twice as many hours as Ron did. How many hours did each work if together they worked 57 hours?

8. Jim worked five less than twice as many hours as Jane did. How many hours did each work if together they worked 97 hours?

9. The sum of the ages of Jerry and his father is 64 years. The difference in their ages is 32 years. How old is each?

10. The sum of the ages of Ruth and her mother is 77 years. The difference in their ages is 27 years. How old is each?

11. The sum of $224 was divided among 3 people so that the second person received $1 less than twice as much as the first, and the third received $11 more than the second. How much did each person receive?

12. The sum of $127 was divided among 3 people so that the second received $5 less than twice as much as the first, and the third received $2 more than the second. How much did each person receive?

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1. Separate 90 into two parts so that one part is 16 more than the other part. Find each part.

x = one part
$x + 16$ = other part

$x + (x + 16) = 90$
$2x + 16 = 90$
$2x = 74$
$x = 37$

$x + 16 = 53$

2. Separate 104 into two parts so that one part is 18 more than the other part. Find each part.

3. Separate 72 into two parts so that one part is 3 more than twice as much as the first part. Find each part.

4. Separate 84 into two parts so that one part is 9 less than twice as much as the other. Find each part.

5. A board 125 inches long is to be cut into two parts so that one part is 4 inches less than twice as long as the other part. Find the length of each part.

6. A board 91 cm long is to be cut into two pieces so that the longer part is 10 cm more than twice as long as the shorter part. Find the length of each part.

7. Connie worked three more than twice as many hours as Gary did. How many hours did each work if together they worked 48 hours?

8. Stanley worked 6 more than twice as many hours as Kathleen did. How many hours did each work if together they worked 69 hours?

9. The sum of the ages of Rudy and his father is 58 years. The difference in their ages is 32 years. How old is each?

10. The sum of the ages of Ruth and her mother is 75 years. The difference in their ages is 29 years. How old is each?

11. The sum of $180 was divided among 3 people so that the second person received $6 less than twice as much as the first, and the third received $7 more than the second. How much did each person receive?

12. The sum of $305 was divided among 3 people so that the second received $4 less than twice as much as the first, and the third received $23 more than the second. How much did each person receive?