Name _____   Date _____

One-Step Equations—Addition and Subtraction

1. If you know the answer, state it. Then use a tape diagram to demonstrate why this is the correct answer. If you do not know the answer, find the solution using a tape diagram.

$$j + 12 = 25$$

2. Find the solution to the equation algebraically. Check your answer.

$$k - 16 = 4$$

1. Find the solution to the equation below using tape diagrams. Check your answer.

$$m - 7 = 17$$

2. Find the solution of the equation below algebraically. Check your answer.

$$n + 14 = 25$$

3. Find the solution of the equation below using tape diagrams. Check your answer.

$$p + 8 = 18$$

4. Find the solution to the equation algebraically. Check your answer.

$$g - 62 = 14$$

5. Find the solution to the equation using the method of your choice. Check your answer.

$$m + 108 = 243$$

6. Identify the mistake in the problem below. Then, correct the mistake.

$$p - 21 = 34$$
$$p - 21 - 21 = 34 - 21$$
$$p = 13$$

7. Identify the mistake in the problem below. Then, correct the mistake.

$$q + 18 = 22$$
$$q + 18 - 18 = 22 + 18$$
$$q = 40$$

8. Match the equation with the correct solution on the right.

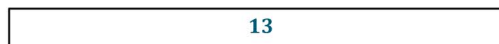|	
$r + 10 = 22$	$r = 10$
$r - 15 = 5$	$r = 20$
$r - 18 = 14$	$r = 12$
$r + 5 = 15$	$r = 32$

1. **If you know the answer, state it. Then use a tape diagram to demonstrate why this is the correct answer. If you do not know the answer, find the solution using a tape diagram.**

$$j + 12 = 25$$

25

13	12

25

j	12

13	12

j	12

13

j

j is equal to 13; $j = 13$.

Check: $13 + 12 = 25$; $25 = 25$. This is a true number sentence, so the solution is correct.

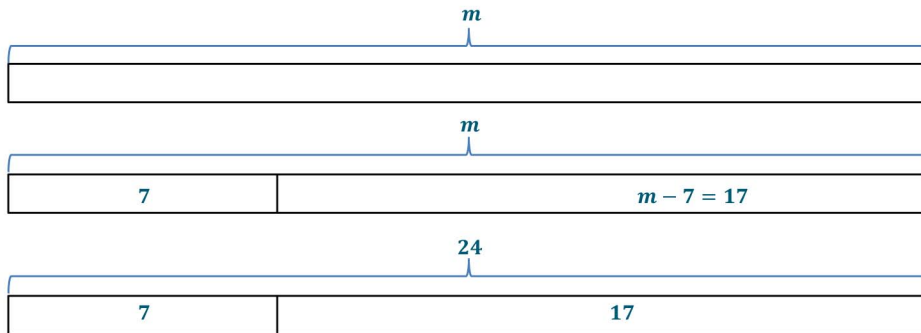2. **Find the solution to the equation algebraically. Check your answer.**

$$k - 16 = 4$$
$$k - 16 + 16 = 4 + 16$$
$$k = 20$$

Check: $20 - 16 = 4$; $4 = 4$. This is a true number sentence, so the solution is correct.

1. **Find the solution to the equation below using tape diagrams. Check your answer.**

$$m - 7 = 17$$

m

m

| 7 | $m - 7 = 17$ |

24

| 7 | 17 |

m is equal to 24; $m = 24$.

Check: $24 - 7 = 17$; $17 = 17$. This number sentence is true, so the solution is correct.

2. **Find the solution of the equation below algebraically. Check your answer.**
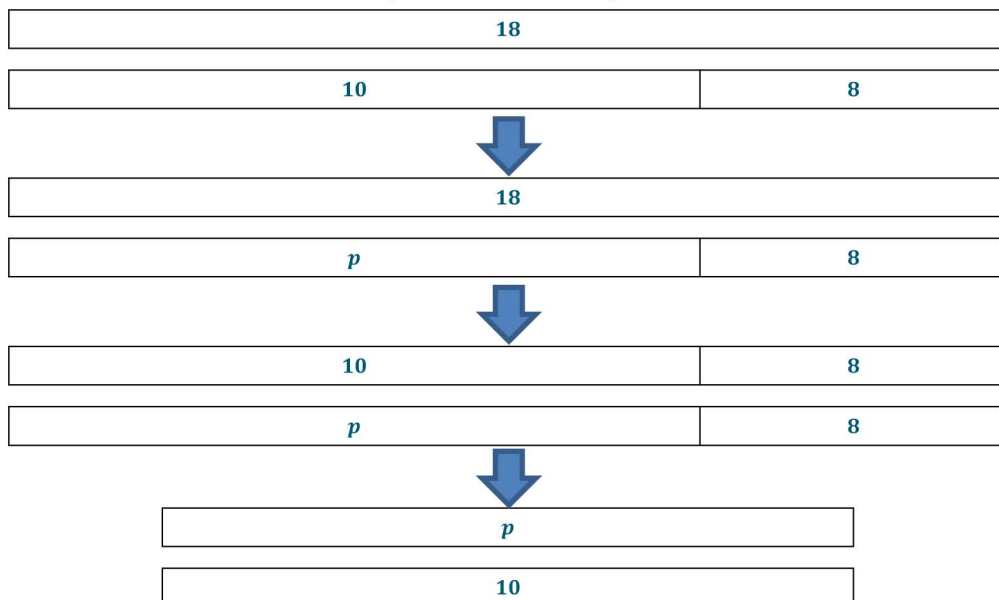
$$n + 14 = 25$$
$$n + 14 - 14 = 25 - 14$$
$$n = 11$$

Check: $11 + 14 = 25$; $25 = 25$. This number sentence is true, so the solution is correct.

3. **Find the solution of the equation below using tape diagrams. Check your answer.**

$$p + 8 = 18 \qquad p = 10$$

| 18 |

| 10 | 8 |

| 18 |

| p | 8 |

| 10 | 8 |

| p | 8 |

| p |

| 10 |

Check: $10 + 8 = 18$; $18 = 18$. This number sentence is true, so the solution is correct.

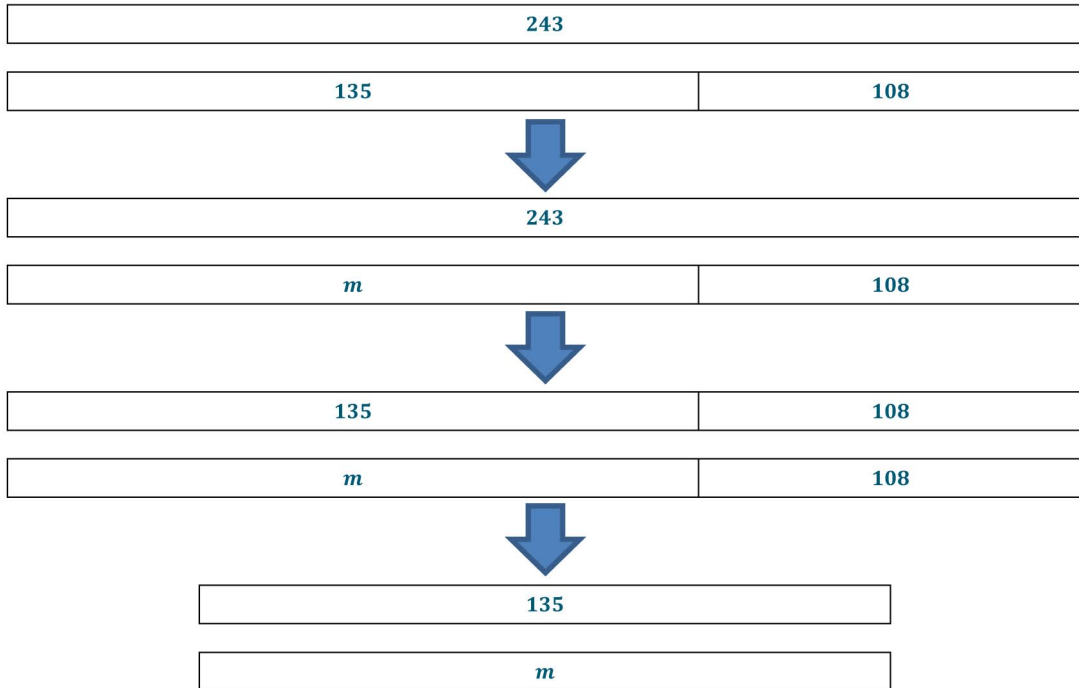4. Find the solution to the equation algebraically. Check your answer.

$$g - 62 = 14$$
$$g - 62 + 62 = 14 + 62$$
$$g = 76$$

Check: $76 - 62 = 14$; $14 = 14$. *This number sentence is true, so the solution is correct.*

5. Find the solution to the equation using the method of your choice. Check your answer.

$$m + 108 = 243$$

Tape Diagrams:

243

135	108

243

m	108

135	108

m	108

135

m

Algebraically:

$$m + 108 = 243$$
$$m + 108 - 108 = 243 - 108$$
$$m = 135$$

Check: $135 + 108 = 243$; $243 = 243$. *This number sentence is true, so the solution is correct.*

6. Identify the mistake in the problem below. Then, correct the mistake.

$$p - 21 = 34$$
$$p - 21 - 21 = 34 - 21$$
$$p = 13$$

The mistake is subtracting rather than adding 21. This is incorrect because $p - 21 - 21$ would not equal p.

$$p - 21 = 34$$
$$p - 21 + 21 = 34 + 21$$
$$p = 55$$

7. Identify the mistake in the problem below. Then, correct the mistake.

$$q + 18 = 22$$
$$q + 18 - 18 = 22 + 18$$
$$q = 40$$

The mistake is adding 18 on the right side of the equation instead of subtracting it from both sides.

$$q + 18 = 22$$
$$q + 18 - 18 = 22 - 18$$
$$q = 4$$

8. Match the equation with the correct solution on the right.

$r + 10 = 22$ $r = 10$
$r - 15 = 5$ $r = 20$
$r - 18 = 14$ $r = 12$
$r + 5 = 15$ $r = 32$