

Length on a Number Line

Name: _____

Date: _____

Score: _____ / 24

Q Quick Review

A **number line** is like a ruler stretched out. The numbers are spaced evenly, and the space between each pair of numbers is one **unit**. To show a length, start at one number and count the jumps to another number. To **add** on a number line, jump **forward**. To **subtract**, jump **backward**. The distance between two points is how far apart they are — you can find it by subtracting the smaller number from the bigger one.

◇ **Example:** On a number line, you start at 3 and jump forward 5 units. Where do you land?

⇒ On a number line, jumping forward means adding. We begin at the number 3. Then we make 5 jumps forward, counting 4, 5, 6, 7, 8. We can also just add: $3 + 5 = 8$. So we land on the number 8.

Answer: 8

PRACTICE

Use the number line idea to answer each question.

- Start at 4 and jump forward 6 units. Where do you land? _____
- Start at 9 and jump backward 3 units. Where do you land? _____
- How far apart are 5 and 12 on a number line? _____
- Start at 0 and jump forward 8 units. Where do you land? _____
- How far apart are 3 and 10 on a number line? _____
- Start at 15 and jump backward 7 units. Where do you land? _____
- Start at 6 and jump forward 9 units. Where do you land? _____
- How far apart are 8 and 20 on a number line? _____
- Start at 11 and jump backward 5 units. Where do you land? _____
- Start at 2 and jump forward 13 units. Where do you land? _____
- How far apart are 0 and 9 on a number line? _____
- Start at 18 and jump backward 10 units. Where do you land? _____
- Start at 7 and jump forward 7 units. Where do you land? _____
- How far apart are 6 and 14 on a number line? _____
- Start at 20 and jump backward 12 units. Where do you land? _____
- Start at 5 and jump forward 10 units. Where do you land? _____
- How far apart are 4 and 17 on a number line? _____
- Start at 13 and jump backward 8 units. Where do you land? _____
- A bug hops from 1 to 9 on a number line. How many units did it hop? _____
- A frog jumps from 16 back to 10 on a number line. How many units back? _____

◆ Word Problems

- A grasshopper sits at 4 on a number line. It jumps forward 7 units to reach a leaf. What number is the leaf on? _____
- On a number line, a snail is at 15. It slides backward 6 units. What number is the snail on now? _____
- Two ants are on a number line. One is at 3 and the other is at 13. How many units apart are the two ants? _____
- A toy car starts at 2 on a number line. It rolls forward 9 units, then rolls back 4 units. What number is it on now? _____



Answer Keys

- | | |
|--|---|
| 1. <input type="text" value="10"/> | 13. <input type="text" value="14"/> |
| 2. <input type="text" value="6"/> | 14. <input type="text" value="8 units"/> |
| 3. <input type="text" value="7 units"/> | 15. <input type="text" value="8"/> |
| 4. <input type="text" value="8"/> | 16. <input type="text" value="15"/> |
| 5. <input type="text" value="7 units"/> | 17. <input type="text" value="13 units"/> |
| 6. <input type="text" value="8"/> | 18. <input type="text" value="5"/> |
| 7. <input type="text" value="15"/> | 19. <input type="text" value="8 units"/> |
| 8. <input type="text" value="12 units"/> | 20. <input type="text" value="6 units"/> |
| 9. <input type="text" value="6"/> | 21. <input type="text" value="11"/> |
| 10. <input type="text" value="15"/> | 22. <input type="text" value="9"/> |
| 11. <input type="text" value="9 units"/> | 23. <input type="text" value="10 units"/> |
| 12. <input type="text" value="8"/> | 24. <input type="text" value="7"/> |

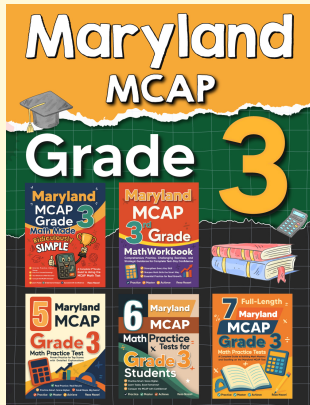
Step-by-Step Explanations

- | | |
|---|--|
| <p>1. Jumping forward means add: $4 + 6 = 10$.</p> <p>2. Jumping backward means subtract: $9 - 3 = 6$.</p> <p>3. Subtract the smaller from the bigger: $12 - 5 = 7$ units.</p> <p>4. Jumping forward means add: $0 + 8 = 8$.</p> <p>5. Subtract: $10 - 3 = 7$ units apart.</p> <p>6. Jumping backward means subtract: $15 - 7 = 8$.</p> <p>7. Jumping forward means add: $6 + 9 = 15$.</p> <p>8. Subtract: $20 - 8 = 12$ units apart.</p> <p>9. Jumping backward means subtract: $11 - 5 = 6$.</p> <p>10. Jumping forward means add: $2 + 13 = 15$.</p> <p>11. Subtract: $9 - 0 = 9$ units apart.</p> <p>12. Jumping backward means subtract: $18 - 10 = 8$.</p> <p>13. Jumping forward means add: $7 + 7 = 14$.</p> | <p>14. Subtract: $14 - 6 = 8$ units apart.</p> <p>15. Jumping backward means subtract: $20 - 12 = 8$.</p> <p>16. Jumping forward means add: $5 + 10 = 15$.</p> <p>17. Subtract: $17 - 4 = 13$ units apart.</p> <p>18. Jumping backward means subtract: $13 - 8 = 5$.</p> <p>19. Subtract: $9 - 1 = 8$ units hopped.</p> <p>20. Subtract: $16 - 10 = 6$ units backward.</p> <p>21. Jumping forward on a number line means adding: $4 + 7 = 11$. The leaf is on 11.</p> <p>22. Sliding backward means subtracting: $15 - 6 = 9$. The snail is now on 9.</p> <p>23. To find the distance, subtract the smaller from the bigger: $13 - 3 = 10$ units apart.</p> <p>24. First add the forward roll: $2 + 9 = 11$. Then subtract the roll back: $11 - 4 = 7$. The car is on 7.</p> |
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