



TABE Math-E

PAXEN

Unit-5 Measurement and Data

Lesson 37

Add and Subtract

Lengths

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Math-E - Lesson 37 – Using Measurements

Lesson 37

Add and Subtract Lengths

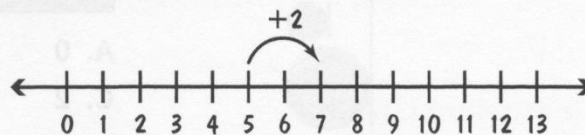
2.MD.6-1

You can use a number line to solve problems involving adding and subtracting lengths. A number line helps you organize your information and determine how to solve a problem.

Example Amber measures a table that is 5 feet long. Then she measures another table that is 2 feet longer than the first. If she places the two tables together, how long of a table does she have?

1) Find the length of the 5-foot-long table on the number line.

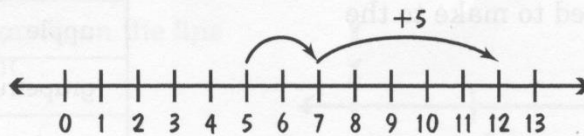
Hop forward 2. What number did you end on?



Now, represent the number line model with an equation: $5 + 2 = 7$.

So, the length of the longer table is 7 feet.

2) Add the length of the first table to the length of the second table.

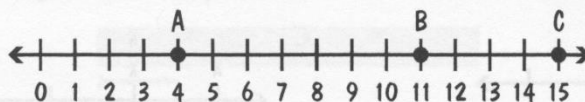


Now, represent the number line model with an equation: $7 + 5 = 12$.

So, placed together, the tables are 12 feet long.

Test Example

1. Tara runs 4 miles. Julie runs 11 miles. Which point on the number line shows the total distance that Tara and Julie run?



A. Point A

B. Point B

C. Point C

D. None of the points show the total distance.

1. C Point C shows the total distance covered by both runners in all: $4 + 11 = 15$ miles.

Hint

Begin with the larger distance. Find the point on the number line that represents the distance run by Julie, and count on the number of miles run by Tara.

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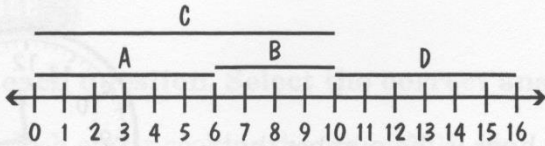
Practice

Read each question. Select the correct answer.

- 1 Wayne paints a wall mural. Today he paints 11 feet of the wall. He has 19 feet left to paint. How long is the wall?

A. 30 feet B. 28 feet
C. 19 feet D. 8 feet

- 2 Kayla cuts a length of blue fabric that is 6 feet long. She cuts a length of patterned fabric that is 10 feet long. Which line segment shows how much longer the patterned fabric is than the blue fabric?

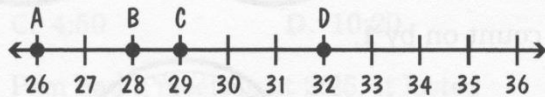


A. A B. B
C. C D. D

- 3 Lionel lays out two wood planks. Together, the planks are 53 inches long. If one plank is 36 inches long, how long is the other plank?

A. 17 inches B. 23 inches
C. 53 inches D. 89 inches

- 4 Cassi has a sunflower that is 26 centimeters tall. The sunflower grows 2 centimeters every day. Which point on the number line shows the height of the sunflower after 3 days?

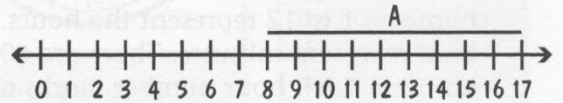


A. A B. B
C. C D. D

- 5 Victor has 64 yards of copper wire. He needs 83 yards of wire for a new project. How many yards of wire does Victor need to buy?

A. 147 yards B. 83 yards
C. 21 yards D. 19 yards

- 6 A team builds a section of sidewalk that is 8 yards long. The total length of the sidewalk will be 17 yards. What does the line segment on the number line represent about this situation?



A. The total length of the sidewalk
B. The length of the sidewalk the team has already built
C. The length of the sidewalk the team still needs to build
D. The line segment does not represent anything about this situation.

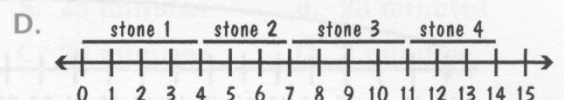
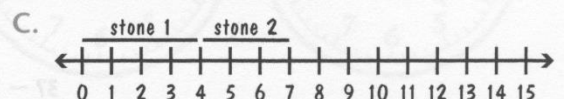
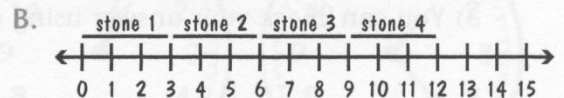
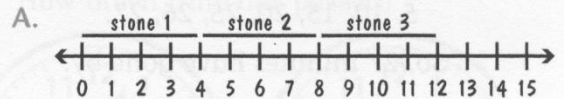
- 7 Lena builds a sculpture that is 14 inches tall. She wants it to be 23 inches tall. How much taller does she have to make the sculpture?

A. 37 inches B. 19 inches
C. 11 inches D. 9 inches

- 8 Rachel drives 40 miles on Saturday. On Sunday she drives 29 miles. How much farther does Rachel drive on Saturday?

A. 11 miles B. 21 miles
C. 29 miles D. 69 miles

- 9 Andrei uses 4 stones to make a path. Each stone is 3 feet long. If Andrei lays the stones end-to-end, which number line represents the length of the path?



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Lesson 37

Add and Subtract Lengths

(2.MD.6)

1. A. $11 + 19 = 30$.
2. B. Line A represents the blue fabric, while line C represents the patterned fabric. The difference is labeled line B: $10 - 6$.
3. A. $53 - 36 = 17$.
4. D. $26 + 2 + 2 + 2 = 32$.
5. D. $83 - 64 = 19$.
6. C. The line segment shows the distance between the length of the sidewalk that has been built, 8 yards, and the total length of the sidewalk, 17 yards.
7. D. $23 - 14 = 9$.
8. A. $40 - 29 = 11$.
9. B. The number line representing this problem should show 4 line segments, each with a length of 3 feet.

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Practice 37

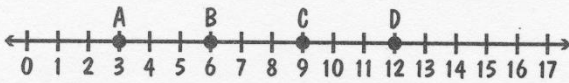
Add and Subtract Lengths

2.MD.6 – Low

- 1 Fred trims weeds along the first three feet of his fence. He stops to fill the trimmer with gas. Then Fred trims the last 21 feet along the fence. How long is the fence?

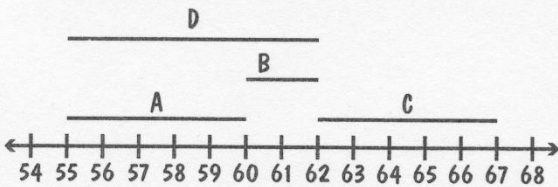
- A. 7 ft B. 18 ft
C. 24 ft D. 45 ft

- 2 Amani stacks books that are each three inches high. Which point on the number line shows the height of three books?



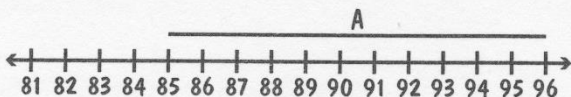
- A. A B. B
C. C D. D

- 3 Cruz is 55 years old. He plans to take distributions from his IRA at age 62. Which line segment shows the number of years until Cruz takes distributions from his IRA?



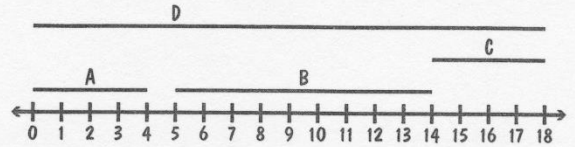
- A. A B. B
C. C D. D

- 4 Mario's table is 96 inches long. His tablecloth is 85 inches long. What does the line segment on the number line represent about this situation?



- A. the length of the table
B. the length of the tablecloth
C. the length of the table covered by the tablecloth
D. the length of the table not covered by the tablecloth

- 5 A utensil tray is 14 inches wide. Akilah's kitchen drawer is four inches wider than the tray. Which statement is true?



- A. Line segment D shows the width of the tray.
B. Line segment C shows the difference in width between the tray and drawer.
C. Line segment B shows the width of the drawer.
D. Line segment A shows the width of the drawer.

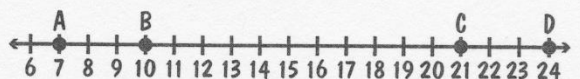
- 6 Rui repairs a frame with a piece of glass that is 16 inches long. The glass is six inches shorter than the frame. What is the length of the frame?

- A. 10 in. B. 22 in.
C. 26 in. D. 38 in.

- 7 Rua has a rope that is 32 feet long. She cuts off 15 feet of rope to anchor her boat. What is the length of remaining rope after Rua cuts the rope for her anchor?

- A. 15 ft B. 17 ft
C. 27 ft D. 47 ft

- 8 Asha receives a delivery of three paintbrushes. Each paintbrush is seven inches wide. Which point on the number line shows the width of a box, in inches, needed to exactly fit the three paintbrushes side-by-side?



- A. A B. B
C. C D. D

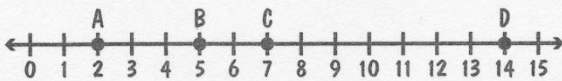
Math-E - Practice 37 – Using Measurements

- 9 A line worker removes an 11-foot branch from an oak tree. Then he removes a branch from a maple tree that is six feet shorter than the oak tree branch. Which two statements are true?
- A. He removes a total of 16 feet of branches.
 - B. He removes a total of 27 feet of branches.
 - C. He removes a total of 28 feet of branches.
 - D. He removes a 5-foot branch from the maple tree.
 - E. He removes a 6-foot branch from the maple tree.
 - F. He removes a 17-foot branch from the maple tree.

- 10 Jaar’s chihuahua is 13 inches long. His pet carrier is four inches longer than his dog. How long is Jaar’s pet carrier?
- A. 9 in.
 - B. 17 in.
 - C. 21 in.
 - D. 30 in.

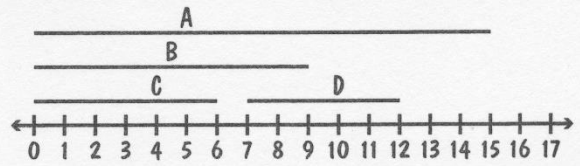
- 11 After a snowstorm, Ethan shovels his sidewalk, which is 17 meters long. Then he shovels his grandmother’s sidewalk, which is three meters shorter than his sidewalk. What is the total length of sidewalk Ethan shovels?
- A. 14 m
 - B. 20 m
 - C. 31 m
 - D. 37 m

- 12 There are currently nine inches of snow on the ground. Overnight, an additional five inches of snow falls. Each day one inch of snow melts. Which point on the number line shows the amount of snow left on the ground after 7 days?



- A. A
- B. B
- C. C
- D. D

Use the number line to answer question 13.



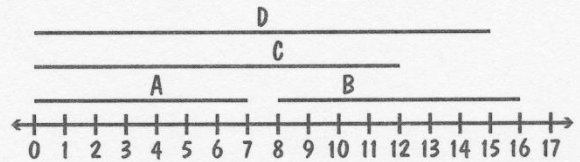
- 13 **Part A**
Azumi builds a table with two shelves. The bottom shelf is nine inches. The top shelf is six inches longer than the bottom shelf. Which line segment represents the length of the top shelf?

- A. A
- B. B
- C. C
- D. D

- Part B**
What is the total length of wood Azumi uses for the shelves?

- A. 24 in.
- B. 15 in.
- C. 12 in.
- D. 9 in.

- 14 Vernon plans to paint his ceiling. He has scaffolding that is seven feet tall. The paintbrush pole extends to eight feet. Which statement is **NOT** true?



- A. Line segment A shows the height of the scaffolding.
- B. Line segment B shows the height of the fully extended pole.
- C. Line segment C shows the total height Vernon can reach using the scaffolding and a fully extended pole.
- D. Line segment D shows the total height Vernon can reach using the scaffolding and a fully extended pole.

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Practice 37

Add and Subtract Lengths

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(2.MD.6)

1. C. $3 + 21 = 24$; The fence is 24 feet long.
2. C. $3 + 3 + 3 = 9$; The height of the three books is 9 inches.
3. D. Line D shows the distance between Cruz's current age, 55, and the age of planned distributions, 62: $62 - 55 = 7$. Cruz has 7 years until he can take distributions from his IRA.
4. D. The line segment shows the distance between the length of the table, 96 inches, and the length of the tablecloth, 85 inches, which is the length of the table not covered by the tablecloth: $96 - 85 = 11$ inches.
5. B. Line segment C shows the difference in width between the tray and the drawer: $18 - 14 = 4$.
6. B. $16 + 6 = 22$; The length of the frame is 22 inches.
7. B. $32 - 15 = 17$; There are 17 feet of rope remaining.
8. C. $7 + 7 + 7 = 21$; The total width of a box, in inches, needed to exactly fit the three paintbrushes side-by-side is 21 inches.
9. A, D. He removes a 5-foot branch from the maple tree: $11 - 6 = 5$. He removes a total of 16 feet of branches from both trees: $11 + 5 = 16$.
10. B. $13 + 4 = 17$; Jaar's pet carrier is 17 inches long.
11. C. $17 + 17 - 3 = 31$; Ethan shovels a total of 31 meters of sidewalk.
12. C. $9 + 5 - 7 = 7$; There are 7 inches of snow left on the ground at the end of 7 days.
13. Part A: A. Line segment A shows the length of the top shelf, $9 + 6 = 15$ inches.
Part B: A. $9 + 15 = 24$; The total length of wood needed for the shelves is 24 inches.
14. C. Line segment C is 12-feet long. With the scaffolding and an 8-foot pole, Vernon can reach a 15-foot ceiling: $7 + 8 = 15$ feet.