TABE Math-E

PAXEN

Unit-5 Measurement and Data
Lesson 33
Standard Units
Measure Metric

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Some graphics may not have copied well during the scan process.
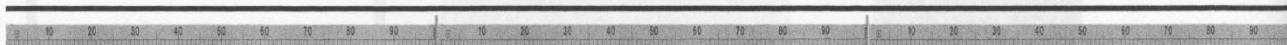
Math-E - Lesson 33 – Metric Measures
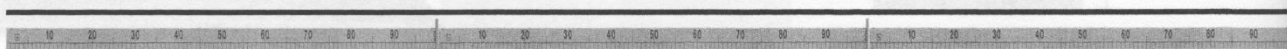
Lesson 33 | **Measure Length in Centimeters and Meters**

You can measure length using measurements of centimeters (cm) and meters (m). A meter is 100 centimeters.

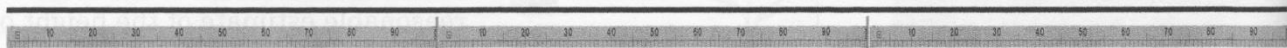**Example** How many centimeters long is the line? How many meters long is the line?

1) Measure the line in meters.

| 1 | 2 | 3 |

The line is 3 meters long.

2) Measure the line in centimeters. Each meter stick shows 100 centimeters. Count by 100.
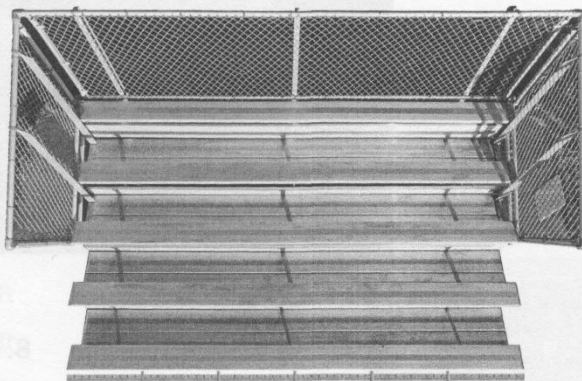
| **100** | **200** | **300** |

The line is 300 centimeters long.

The length of the line does not change. The measurement in centimeters is a larger number because centimeters are a smaller unit.

Test Example

1. What is the width of the bleachers in meters and in centimeters?

A. 6 meters; 600 centimeters B. 600 meters; 6 centimeters
C. 6 meters; 60 centimeters D. 60 meters; 6 centimeters

1. **A** There are 6 meter sticks, so the bleachers are 6 meters long. Each meter stick is 100 centimeters, so the length of the bleachers in centimeters is 100 + 100 + 100 + 100 + 100 + 100 = 600.

Strategy
Under each meter stick, write the number of centimeters as you add them to find the total.

Math-E - Lesson 33 – Metric Measures

Read each question. Select the correct answer.

1 Haley measures the width of her storage unit in meters and in centimeters. Which statement is true about the measurements of the storage unit?

A. It takes fewer centimeters than meters to measure the storage unit.

B. It takes more meters than centimeters to measure the storage unit.

C. It takes the same number of centimeters and meters to measure the storage unit.

D. It takes more centimeters than meters to measure the storage unit.

2 What is the height of the billboard in meters and in centimeters?

A. 5 meters; 50 centimeters

B. 5 centimeters; 50 meters

C. 5 meters; 500 centimeters

D. 5 centimeters; 500 meters

3 A carpet sample is 800 centimeters long. How many meters long is the carpet?

A. 1 m   B. 8 m

C. 80 m   D. 100 m

4 Which of the following sets of measurements could be the width of the same room?

A. 7 meters; 7 centimeters

B. 300 meters; 3 centimeters

C. 20 meters; 20 centimeters

D. 6 meters; 600 centimeters

5 Tim and Ethan both measure the length of the same shelf. Tim says the shelf is 3 meters. Ethan says the shelf is 3 centimeters. Are they both correct? Select the answer with the best explanation.

A. They are both correct because they measured the same shelf. The measurements should be the same.

B. One of them is wrong because the shelf should be fewer centimeters than meters.

C. They are both correct because meters and centimeters are equal units of measurement.

D. One of them is wrong because the shelf should be fewer meters than centimeters.

6 The table shows measurements for the width of a living room and the width of a dining room. What is the width of the dining room in centimeters?

Object	Width in Meters	Width in Centimeters
Living room	7 meters	700 centimeters
Dining room	5 meters	?

A. 4 cm

B. 5 cm

C. 50 cm

D. 500 cm

Math-E - Lesson 33 – Metric Measures

Lesson 33 | **Measure Length in Centimeters and Meters**

(2.MD.2)

1. D. Because centimeters are a smaller unit than meters, it takes more centimeters to measure the width.

2. C. There are 5 meters along the height of the billboard, so it is 5 meters high. Each meter represents 100 centimeters, so you can find the height in centimeters by adding $100 + 100 + 100 + 100 + 100 = 500$.

3. B. There are 100 centimeters in a meter. Skip count by 100 to find how many meters long the carpet sample is: $100 + 100 + 100 + 100 + 100 + 100 + 100 + 100 = 800$ cm. $1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 = 8$ m.

4. D. The number of meters must be smaller than the number of centimeters. The number of centimeters must be larger than the number of meters.

5. D. The number of meters must be smaller than the number of centimeters. The number of centimeters must be larger than the number of meters.

6. D. There are 100 centimeters in each meter, so 5 meters equals: $100 + 100 + 100 + 100 + 100 = 500$ cm.

Math-E - Practice 33 – Metric Measures

Practice 33 · **Measure Length in Centimeters and Meters**

2.MD.2 – Low

Conversion factor: 1 meter = 100 centimeters

1 Which set of measurements could be the length of the same fireplace hearth?

A. 2 cm; 2 m

B. 20 cm; 2 m

C. 200 cm; 20 m

D. 200 cm; 2 m

Use the table to answer question 2.

Marine Animals	Length in Meters	Length in Centimeters
Giant Squid	12 meters	?
Whale Shark	?	1,800 centimeters

2 **Part A**

A research team measures marine animals. How long is a giant squid in centimeters?

A. 12,000 cm

B. 1,200 cm

C. 120 cm

D. 12 cm

Part B

How long is a whale shark in meters?

A. 1,800 m

B. 180 m

C. 18 m

D. 1.8 m

3 Clinton and Leroy measure the length of the same truck bed. Clinton says the length is 200 centimeters. Leroy says the length is 200 meters. Which statement is true?

A. They are both correct because they measured the same truck bed. The measurements should be the same.

B. One of them is wrong because the length of the truck bed should be fewer meters than centimeters.

C. They are both correct because meters are a smaller unit than centimeters.

D. One of them is wrong because equal lengths have fewer centimeters than meters.

4 The average height of the children in Mrs. Linfoot's preschool class is 100 centimeters. What is the average height of the children in meters?

A. 1,000 m

B. 10 m

C. 100 m

D. 1 m

5 The length of a volleyball net is nine meters. What is the length of the net in centimeters?

A. 9 cm

B. 90 cm

C. 900 cm

D. 9,000 cm

6 A swimming pool is 600 centimeters wide and 10 meters long. What are the measurements of the pool?

A. 6 m wide, 10 cm long

B. 60 m wide, 100 cm long

C. 6 m wide, 1,000 cm long

D. 60 m wide, 1,000 cm long

7 A tree is measured with meter sticks. Each meter stick shows 100 centimeters. Which two measurements describe the height of the tree?
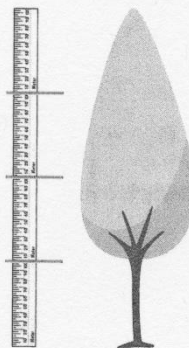
A. 4 m

B. 4 cm

C. 40 m

D. 40 cm

E. 400 m

F. 400 cm

5

8 Antwaine measures a hallway in centimeters and in meters. Which statement is true?

  A. The number of centimeters will be greater than the number of meters.

  B. The number of meters will be greater than the number of centimeters.

  C. The units cannot be compared without knowing the exact measurements.

  D. The number of meters and centimeters will be equal.

9 The length of a windowsill is 200 centimeters. How long is the windowsill in meters?

  A. 2 m

  B. 20 m

  C. 200 m

 D. 2,000 m

10 Which set of measurements could be from the same rug?

  A. 1 m; 1,000 cm

  B. 30 m; 300 cm

  C. 4 m; 400 cm

  D. 6 m; 60 cm

11 A deck railing is 100 centimeters high. What is the height of the deck railing in meters?

  A. 1 m

  B. 5 m

  C. 10 m

  D. 50 m

12 Malik installs 500 centimeters of fencing in one hour. How much fencing does Malik install after three hours?

  A. 3 m

  B. 5 m

  C. 15 m

  D. 50 m

13 Which set of measurements could be from the same walking path?

  A. 9,000 cm; 9 m

  B. 80 cm; 8 m

  C. 7 cm; 700 m

  D. 600 cm; 6 m

14 A mattress is measured with meter sticks. Each meter stick shows 100 centimeters. Which two measurements describe the length of the mattress?
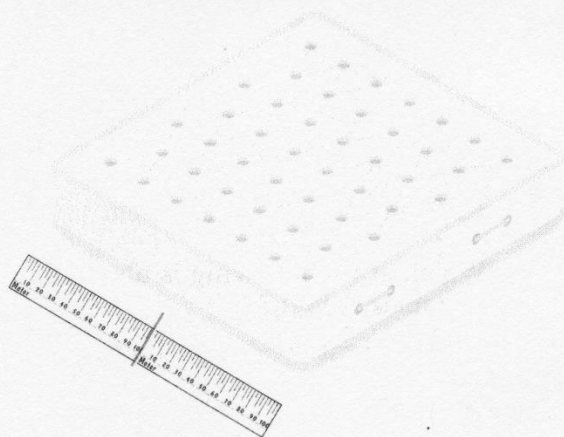
  A. 1 m

  B. 2 m

  C. 20 m

  D. 20 cm

  E. 200 cm

  F. 2,000 cm

15 The depth of Blue Rose Lake is seven meters. How deep is Blue Rose Lake?

  A. 7 cm

  B. 70 cm

  C. 700 m

  D. 700 cm

16 An irregularly shaped backyard measures 5 meters to the house from Point A and 6 meters to the house from Point B. What are the distances from the house to Points A and B in centimeters?

  A. 50 cm, 60 cm

  B. 500 cm, 600 cm

  C. 50 cm, 600 cm

  D. 500 cm, 60 cm

Math-E - Practice 33 – Metric Measures

Practice 33 | **Measure Length in Centimeters and Meters**

pp. 6–7   (2.MD.2)

1. D. Because the same hearth is being measured, there should be fewer meters than centimeters. Meters are a larger unit than centimeters. 200 centimeters is the same as 2 meters; 100 + 100 = 200.

2. Part A: B. 100 × 12= 1,200; The giant squid is 1,200 centimeters long.

   Part B: C. 100 × 18 = 1,800; The whale shark is 18 meters long.

3. B. The number of meters must be less than the number of centimeters because a meter is a larger unit than a centimeter.

4. D. There are 100 centimeters in 1 meter; 100 cm = 1 m. The average height of the children is 1 meter.

5. C. There are 100 centimeters in 1 meter; 100 × 9 = 900; 900 centimeters is the same as 9 meters.

6. C. 100 + 100 + 100 + 100 + 100 + 100 = 600; The pool is 6 meters wide. 100 × 10 = 1,000; The pool is 1,000 centimeters long.

7. A, F. Each ruler represents 1 meter. The height of the tree is 4 rulers, so the tree is 4 meters high. There are 100 centimeters in 1 meter, so 100 + 100 + 100 + 100 = 400. The tree is 400 centimeters high.

8. A. The number of centimeters must be greater than the number of meters because a centimeter is a smaller unit than a meter.

9. A. 100 + 100 = 200; 200 centimeters is the same as 2 meters.

10. C. Because the same rug is being measured, there should be fewer meters than centimeters. Meters are a larger unit than centimeters. 4 meters is the same as 400 centimeters; 100 + 100 + 100 + 100 = 400.

11. A. 100 centimeters is the same as 1 meter.

12. C. 100 + 100 + 100 + 100 + 100 = 500; 500 centimeters is the same as 5 meters. Malik installs 5 meters of fencing in 1 hour. 5 × 3 = 15; Malik installs 15 meters of fencing in 3 hours.

13. D. Because the same path is being measured, there should be fewer meters than centimeters. Meters are a larger unit than centimeters. 600 centimeters is the same as 6 meters; 100 + 100 + 100 + 100 + 100 + 100 = 600.

14. B, E. Each ruler represents 1 meter. The length of the mattress is 2 rulers, so the mattress is 2 meters long. Each meter is 100 centimeters, so 100 + 100 = 200. The mattress is 200 centimeters long.

15. D. 100 + 100 + 100 + 100 + 100 + 100 + 100 = 700; 700 centimeters is the same as 7 meters.

16. B. 100 + 100 + 100 + 100 + 100 = 500; 500 centimeters is the same as 5 meters. 100 + 100 + 100 + 100 + 100 + 100 = 600; 600 centimeters is the same as 6 meters.