

Versa
Tiles

Math

Measurement and Data

Length and Data Analysis



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VersaTiles® Measurement and Data: Length and Data Analysis, Grade 2

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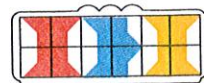
Inches or Feet?

Choose the best estimate of length.

- | | |
|---|--|
| 1 a chair
3 inches or 3 feet? | 2 a door
6 inches or 6 feet? |
| 3 a pencil
7 inches or 7 feet? | 4 a crayon
3 inches or 3 feet? |
| 5 an eraser
2 inches or 2 feet? | 6 a desk
36 inches or 36 feet? |
| 7 a bookshelf
7 inches or 7 feet? | 8 a banana
6 inches or 6 feet? |
| 9 a laptop screen
18 inches or 18 feet? | 10 a fence
18 inches or 18 feet? |
| 11 a dog
2 inches or 2 feet? | 12 a swimming pool
36 inches or 36 feet? |

A	B	C	D	E	F
7 in.	18 in.	36 in.	6 in.	3 in.	3 ft
2 in.	2 ft	36 ft	6 ft	7 ft	18 ft
G	H	I	J	K	L

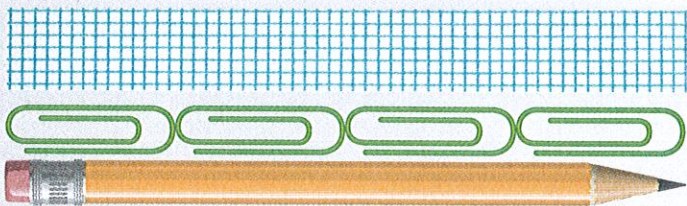
Objective: Estimate length using inches or feet.



Units to Measure

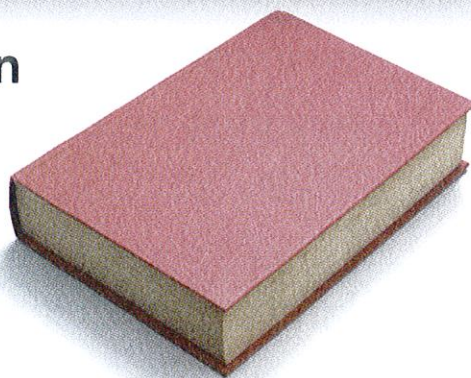
Example

Which would have more units when measuring?



The paper clip has more units than the pencil.

Which would have more units when measuring this book?



1



or



2



or



3



or



4



or



5



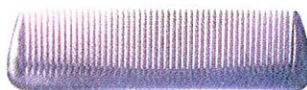
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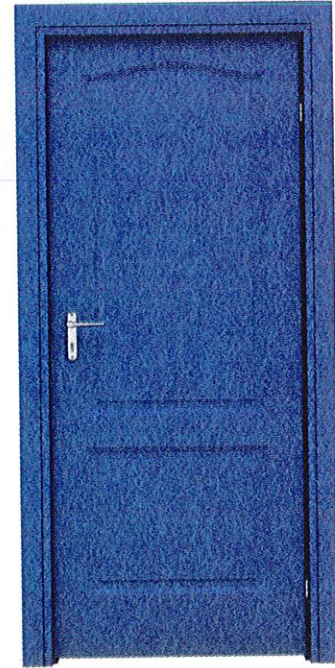
6



or



Which would have fewer units when measuring this door?



7



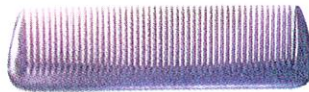
or



8



or



9



or



10



or



11



or



12



or



A	B	C	D	E	F
G	H	I	J	K	L

Objective: Measure length.



Measuring Sense

Which is the best estimate?

- | | |
|--|---|
| 1 less than 1 foot?
pencil or bike | 2 more than 1 meter?
apple or chair |
| 3 less than 1 inch?
grape or shoe | 4 more than 1 foot?
table or grape |
| 5 less than 1 foot?
chair or shoe | 6 more than 1 foot?
bike or fork |
| 7 less than 1 meter?
balloon or hiking trail | 8 more than 1 km?
hiking trail or car |
| 9 less than 1 inch?
dime or balloon | 10 more than 1 inch?
apple or dime |
| 11 less than 1 centimeter?
bug or shoe | 12 more than 1 meter?
fork or car |

A	B	C	D	E	F
grape	dime	balloon	apple	bike	chair
shoe	bug	pencil	table	car	hiking trail
G	H	I	J	K	L

Objective: Estimate length.



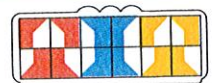
Check Up

Find the best answer.

- 1 The length of a meter stick is ■ centimeters.
- 2 The length of a yardstick is ■ inches.
- 3 Which unit is larger, inches or yards?
- 4 Which unit is larger, inches or feet?
- 5 1 inch is longer than 1 foot. True or false?
- 6 1 centimeter is ■ than 1 inch.
- 7 The length of a yardstick is ■ feet.
- 8 Which unit is larger, centimeters or meters?
- 9 Use centimeters to measure length. Yes or no?
- 10 Use inches to measure the length of a shoe. True or false?
- 11 Use liters to measure length. Yes or no?
- 12 3 feet is ■ than 3 inches.

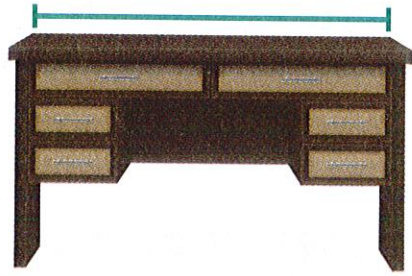
A	B	C	D	E	F
yards	Yes	shorter	36	feet	100
no	false	longer	meters	True	3
G	H	I	J	K	L

Objective: Relate measurement to the size of the unit.



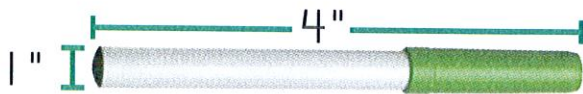
Choose the Tool

Choose the best measurement tool.



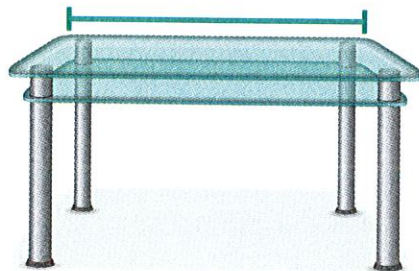
1 The desk is 50 inches wide.
12-inch ruler or 60-inch measuring tape

2 The desk is 4 feet, 2 inches wide.
12-inch ruler or yardstick



3 The marker is 4 inches long.
6-inch ruler or yardstick

4 The marker is 1 inch thick.
12-inch ruler or 60-inch measuring tape



5 The table is 127 centimeters long.
150-cm measuring tape or 50-cm ruler

6 The table is 1 meter, 27 centimeters long.
150-cm measuring tape or meter stick

Answer the question.

7 I want to find my belt size. I will measure around my waist. I can use a measuring tape. True or false?

8 I want to find how tall my brother is. I will measure in feet and inches. I should use a meter stick. True or false?

Complete the sentence.

9 A 12-inch ruler is than a yardstick.

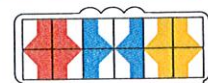
10 A meter stick is than a centimeter ruler.

11 I used a 6-inch ruler to measure a book. The book was 2 rulers long. That is inches.

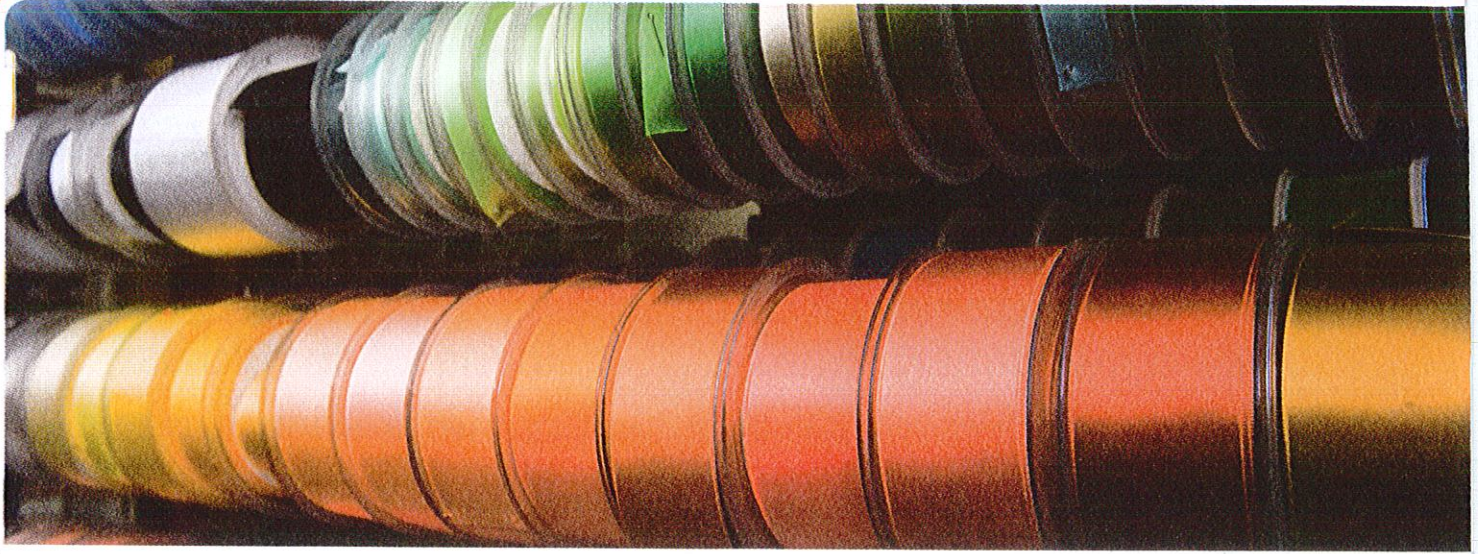
12 I used a 12-inch ruler to measure a ribbon. The ribbon was 2 rulers long. That is feet.

A	B	C	D	E	F
150-cm measuring tape	12	false	2	True	longer
6-inch ruler	shorter	yardstick	meter stick	12-inch ruler	60-inch measuring tape
G	H	I	J	K	L

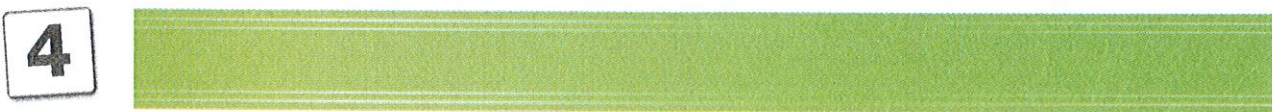
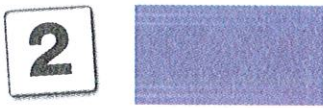
Objective: Choose the best tool to measure length.



How Long?



Use a ruler to find the length in inches.



Use a ruler to find the length in cm.

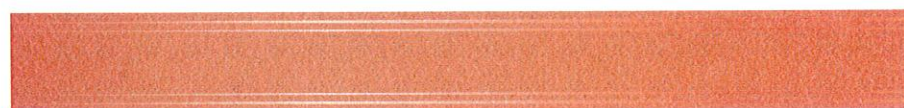
7



8



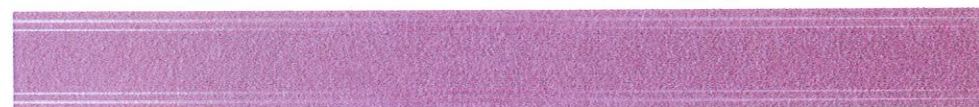
9



10



11



12



A	B	C	D	E	F
15 cm	7 cm	12 cm	3 in.	4 cm	8 cm
6 in.	4 in.	13 cm	2 in.	5 in.	1 in.
G	H	I	J	K	L

Objective: Measure length.



Line It Up



Find the missing number.

1 $100 \text{ cm} - 46 \text{ cm} = \blacksquare \text{ cm}$

2 $76 \text{ cm} - 18 \text{ cm} = \blacksquare \text{ cm}$

3 $96 \text{ m} - \blacksquare \text{ m} = 55 \text{ m}$

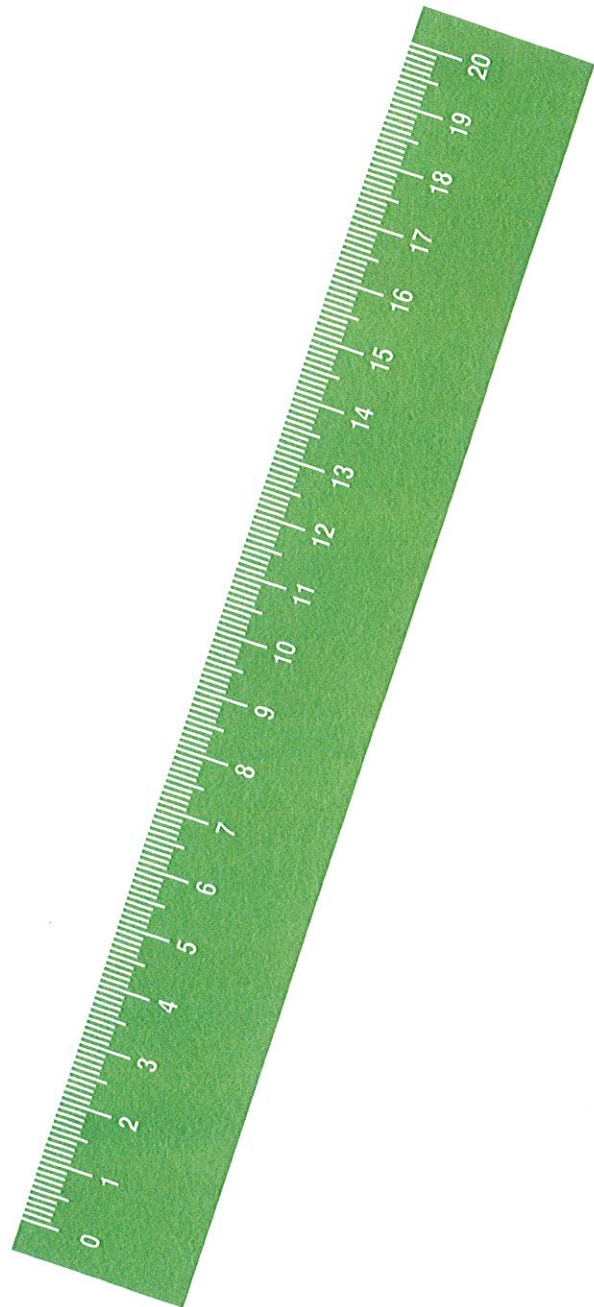
4 $74 \text{ cm} - 18 \text{ cm} = \blacksquare \text{ cm}$

5 $85 \text{ m} - \blacksquare \text{ m} = 66 \text{ m}$

6 $100 \text{ cm} - 28 \text{ cm} = \blacksquare \text{ cm}$

7 $92 \text{ cm} - 17 \text{ cm} = \blacksquare \text{ cm}$

8 $95 \text{ cm} - \blacksquare \text{ cm} = 69 \text{ cm}$



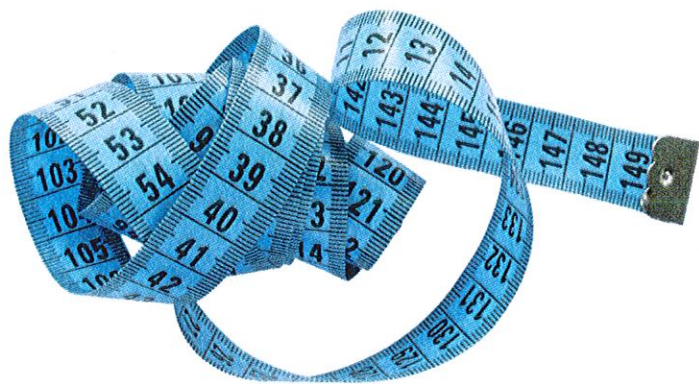


9 $82 \text{ m} - 31 \text{ m} = \blacksquare \text{ m}$

10 $65 \text{ cm} - 6 \text{ cm} = \blacksquare \text{ cm}$

11 $94 \text{ km} - 42 \text{ km} = \blacksquare \text{ km}$

12 $87 \text{ m} - \blacksquare \text{ m} = 50 \text{ m}$



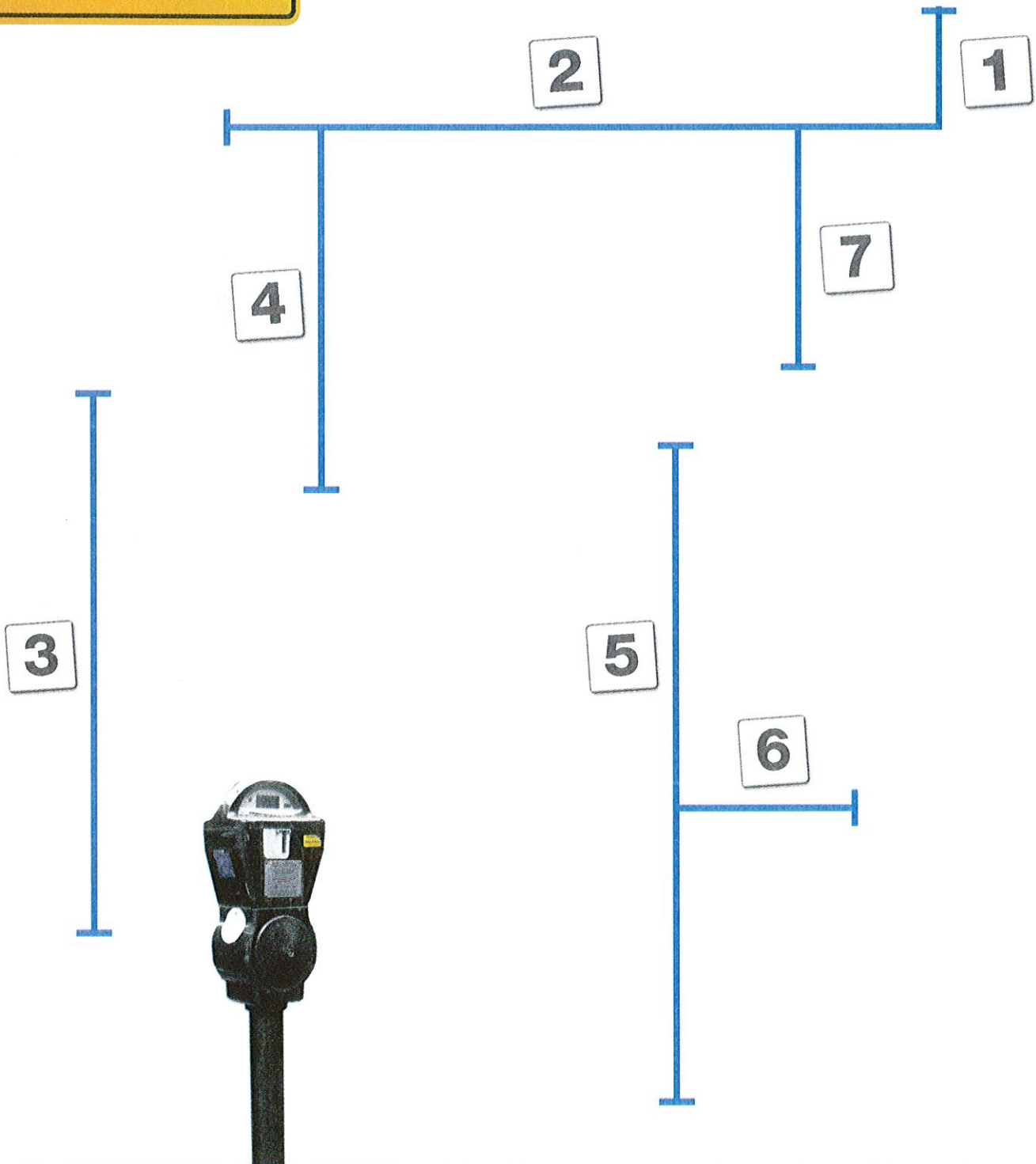
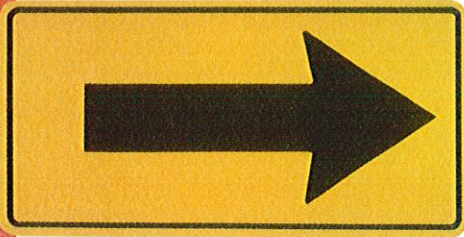
A	B	C	D	E	F
59	75	41	51	26	37
56	54	19	52	72	58
G	H	I	J	K	L

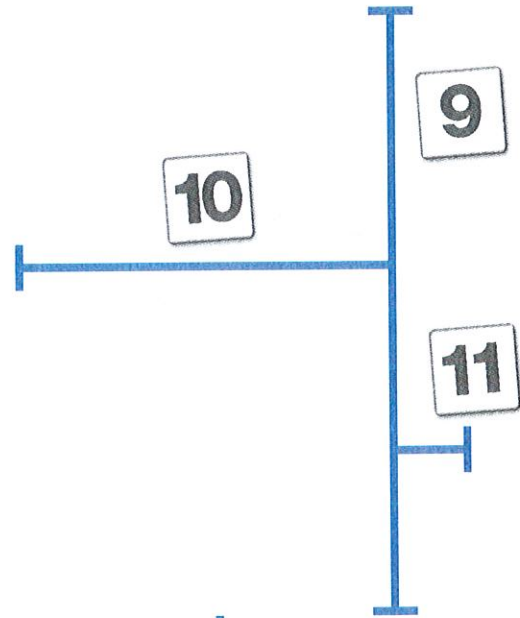
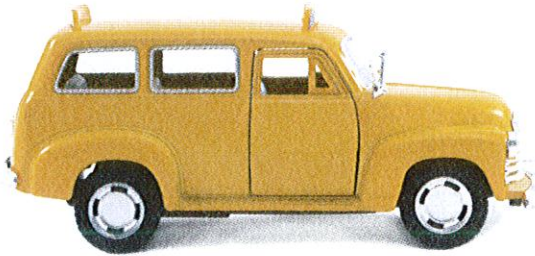
Objective: Subtract length using a number line.



Sense with Centimeters

Use a centimeter ruler. Measure to the nearest centimeter.





A	B	C	D	E	F
6 cm	2 cm	8 cm	11 cm	3 cm	12 cm
4 cm	5 cm	1 cm	9 cm	10 cm	7 cm
G	H	I	J	K	L

Objective: Find the measure of an object to the nearest centimeter.



Lengthy Addition

Solve the problem.

- 1** Abe has a piece of tape that is 30 inches long. He tears off 6 inches. How long is the tape now?
- 2** A flag is 28 inches long. A ribbon is 18 inches long. How much longer is the flag than the ribbon?
- 3** A train car is 25 feet long. How long are two of these train cars?
- 4** The race track was 500 feet, but they closed 100 feet. How long is it now?
- 5** Mario ran the 800-yard race and Rick ran the 400-yard race. How many more yards did Mario run than Rick?
- 6** The red team threw the ball 45 feet. The blue team threw it 76 feet. How much farther did the blue team throw the ball?
- 7** Ann ran 200 yards on Monday and 800 yards on Tuesday. How many yards did she run in all?

Tip

You can use a drawing to solve.



- 8** Joe jumped 18 inches high. Frank jumped 26 inches high. How many inches higher did Frank jump?
- 9** Two batons are each 13 inches long. How long are they together?
- 10** Rachel watched the 50-yard race and the 100-yard race. How many yards did she watch?
- 11** The banners at the start and finish lines are each 8 feet. How many feet are they both together?
- 12** The red team banner is 12 feet long. The blue team banner is 18 feet long. How long are they together?



A	B	C	D	E	F
30 ft	8 in.	400 ft	150 yd	400 yd	16 ft
10 in.	31 ft	1,000 yd	24 in.	26 in.	50 ft
G	H	I	J	K	L

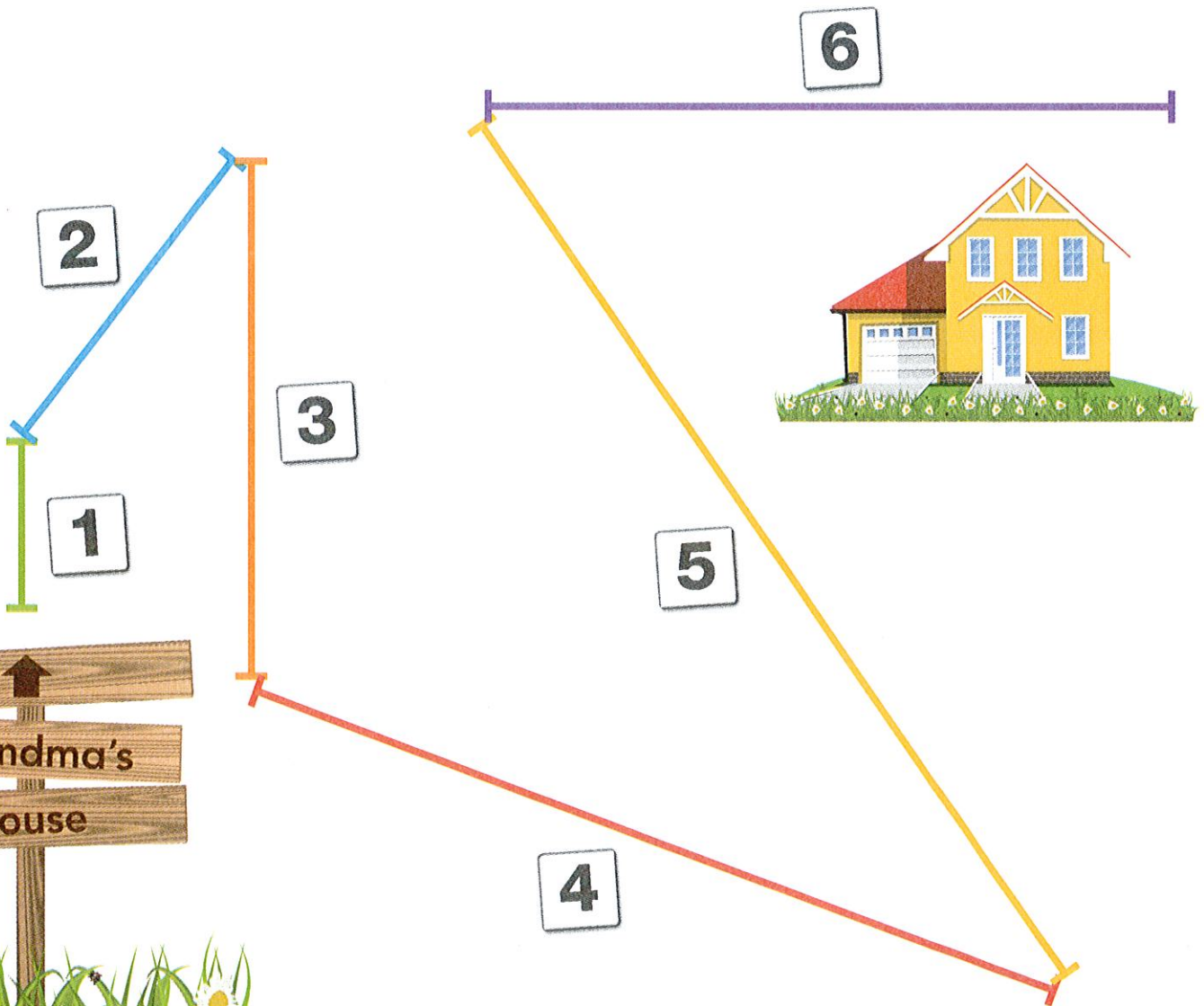
Objective: Solve word problems involving length in inches, feet, and yards.



Inch by Inch



Use an inch ruler. Measure the length of each line.



Which path is this long?

7 2 in.

8 5 in.

9 4 in.

10 3 in.

11 6 in.

12 1 in.



A	B	C	D	E	F
2 in.	4 in.				3 in.
		1 in.	5 in.		6 in.
G	H	I	J	K	L

Objective: Find the measure of an object to the nearest inch.



Adding Lengths on a Number Line



Find the missing number.

1 $47 \text{ ft} + 18 \text{ ft} = \blacksquare \text{ ft}$

2 $65 \text{ ft} + 14 \text{ ft} = \blacksquare \text{ ft}$

3 $63 \text{ ft} + \blacksquare \text{ ft} = 88 \text{ ft}$

4 $\blacksquare \text{ ft} + 22 \text{ ft} = 75 \text{ ft}$

5 $\blacksquare \text{ ft} + 16 \text{ ft} = 85 \text{ ft}$

6 $59 \text{ ft} + 5 \text{ ft} = \blacksquare \text{ ft}$

7 $78 \text{ ft} + \blacksquare \text{ ft} = 95 \text{ ft}$

8 $55 \text{ ft} + 15 \text{ ft} = \blacksquare \text{ ft}$



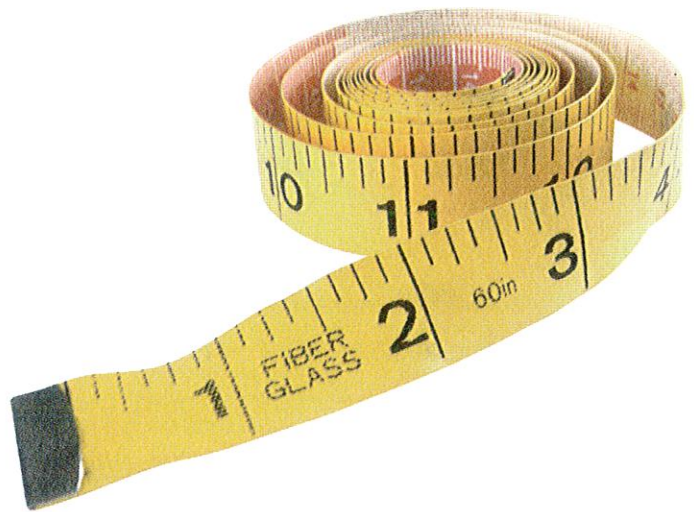
76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

9 $72 \text{ ft} + 6 \text{ ft} = \blacksquare \text{ ft}$

10 $74 \text{ ft} + \blacksquare \text{ ft} = 86 \text{ ft}$

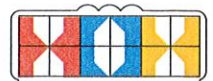
11 $53 \text{ ft} + 18 \text{ ft} = \blacksquare \text{ ft}$

12 $\blacksquare \text{ ft} + 12 \text{ ft} = 99 \text{ ft}$



A	B	C	D	E	F
71	69	79	64	12	17
78	25	70	87	65	53
G	H	I	J	K	L

Objective: Add lengths on a number line.



Measure Up

Choose the best estimate.

1



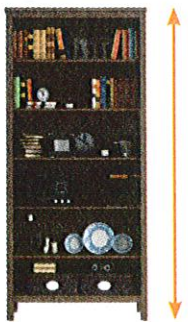
1 foot or 5 feet

2



30 feet or 2 feet

3



30 feet or 5 feet

4



12 feet or 200 feet

5



10 feet or 4 feet

6



8 feet or 2 feet

7



12 feet or 3 feet

8



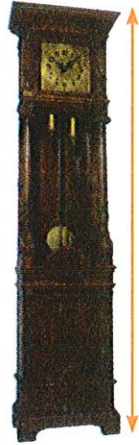
200 feet or 6 feet

9



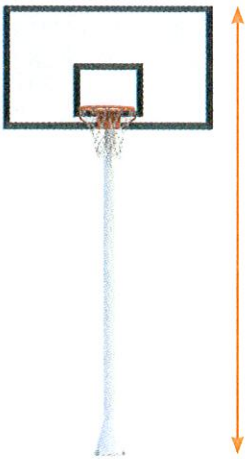
20 feet or 3 feet

10



1 foot or 7 feet

11



10 feet or 30 feet

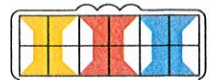
12



30 feet or 7 feet

A	B	C	D	E	F
12 ft	1 ft	5 ft	20 ft	8 ft	2 ft
3 ft	7 ft	4 ft	10 ft	30 ft	6 ft
G	H	I	J	K	L

Objective: Estimate a length, in feet, for a pictured object.



How Long?

Find the correct equation.

1 Alice has a piece of tape that is 30 inches long. She tears off 6 inches. How long is the tape now?

2 A ribbon is 11 inches long. A string is 18 inches long. How much longer is the string than the ribbon?

3 A log is 30 feet long. 13 feet is cut off. How long is it now?

4 John has a sandwich that is 16 inches. There are 7 inches left. How many inches did he eat?

5 There are 26 inches of red material. There are 47 inches of blue material. How many inches of material are there in all?

6 Jessica has 36 yards of green yarn. She has 30 yards of pink yarn. How many yards of yarn does she have?

7 One fence is 27 feet. The other fence is 65 feet. How many feet in all?



8 Ryan rode his bike 10 miles, swam 1 mile, and ran 2 miles. How far did he go in all?

9 The race is 65 miles. Alex rode 27 miles. How much farther does he have to go?

10 Zoe has 47 inches of ribbon. Ava has 26 inches. How many more inches does Zoe have?

11 Two boxes are each 18 inches tall. How tall are they together?

12 A piece of wood is 13 feet, and another is 30 feet. How long are they both together?



A	B	C	D	E	F
$16 - \blacksquare = 7$	$30 - 6 = \blacksquare$	$18 - 11 = \blacksquare$	$36 + 30 = \blacksquare$	$27 + \blacksquare = 65$	$30 - 13 = \blacksquare$
$47 - \blacksquare = 26$	$27 + 65 = \blacksquare$	$10 + 1 + 2 = \blacksquare$	$13 + 30 = \blacksquare$	$26 + 47 = \blacksquare$	$18 + 18 = \blacksquare$
G	H	I	J	K	L

Objective: Write equations for word problems involving length.



Measure to Compare

Measure the lengths. Compare and tell how much longer.



1 _____ cm



2 _____ cm

3 The craft stick is _____ longer than the string.



4 _____ cm



5 _____ cm

6 The ribbon is _____ longer than the string

Measure the lengths. Compare and tell how much longer.



7 _____ in.



8 _____ in.

9 The craft stick is _____ longer than the string.



10 _____ in.



11 _____ in.

12 The ribbon is _____ longer than the string

A	B	C	D	E	F
12	3	19	14	2 in.	6
G	H	I	J	K	L
1 in.	4 cm	7	5	15	2 cm

Objective: Measure to compare lengths.



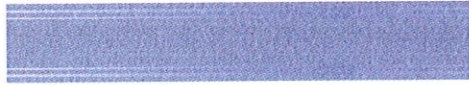
Represent Length on a Number Line

How long?

1



2



3



4



5



6



7



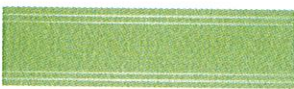
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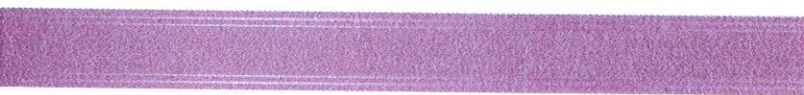
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10



11

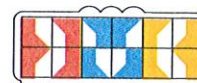


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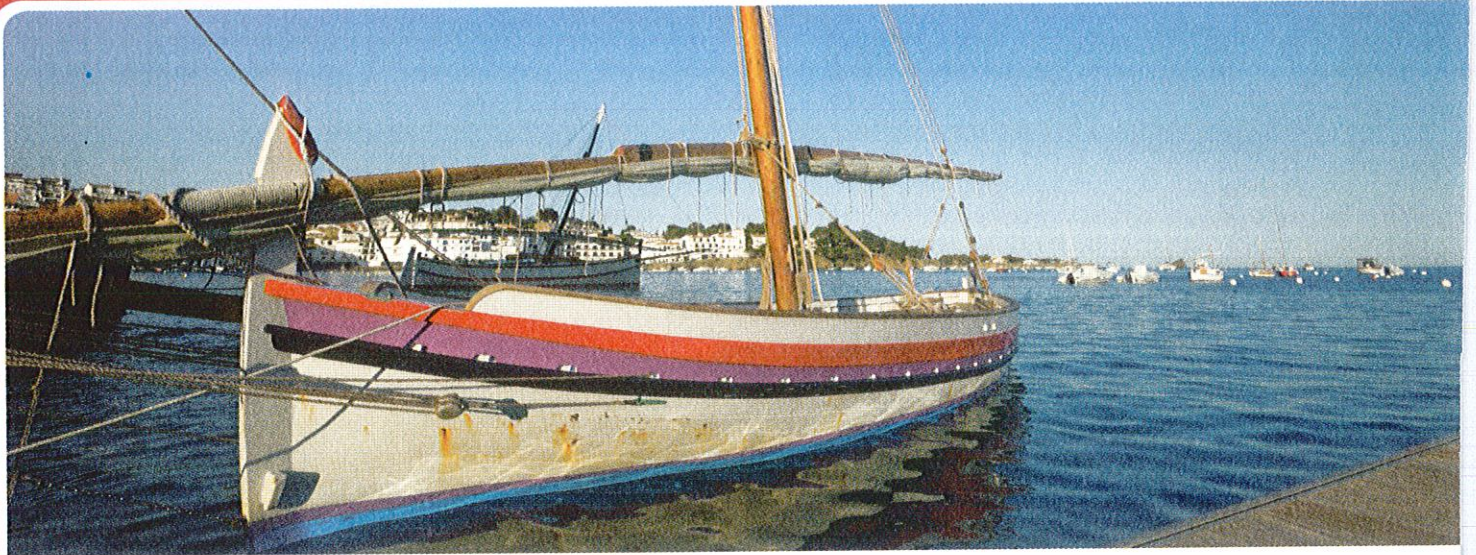


A	B	C	D	E	F
14	12	8	18	16	2
20	15	4	7	5	6
G	H	I	J	K	L

Objective: Represent length on a number line.



At Great Length



Solve the problem.

- 1** Joe has a paper that is 81 cm long. He glues on 8 cm. How long is the paper now?
- 2** A ribbon is 61 cm long. A string is 18 cm long. How much longer is the ribbon than the string?
- 3** One fishing line is 16 meters. The second line is 22 meters. How much longer is the second fishing line?
- 4** The horse corral is 34 meters plus 56 meters. How long is it?
- 5** Jess has two ponytails that are each 25 cm. How long are they in all?
- 6** The path is 49 meters long, but they closed 18 meters. How many meters are still open?

- 7** Jose measured two lamps. One is 54 cm. The other is 43 cm. How many cm are they together?
- 8** Jim's fishing pole was 98 cm long. He broke 23 cm off. How long is it now?
- 9** The ribbon was 89 cm, but 36 cm were cut off. How many cm are left?
- 10** Jason's rope is 45 cm. Bill's rope is 32 cm. How many cm in all?
- 11** A path is 26 meters plus 46 meters. How many meters long is it?
- 12** Matt ran 66 meters and another 45 meters. How many meters did he run?



A	B	C	D	E	F
53	6 m	111	75 cm	89 cm	90 m
72	50 cm	43 cm	31	77	97
G	H	I	J	K	L

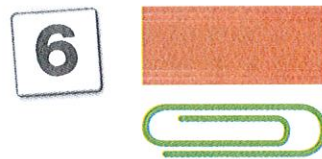
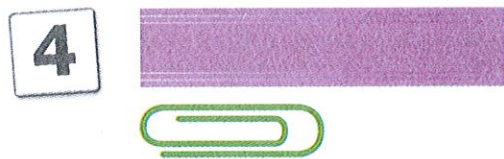
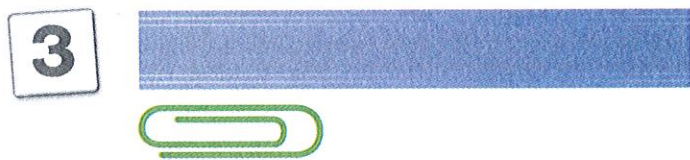
Objective: Solve word problems involving metric length.



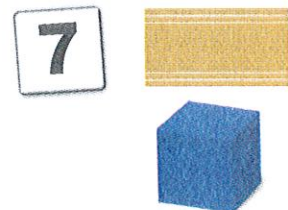
Estimate Length



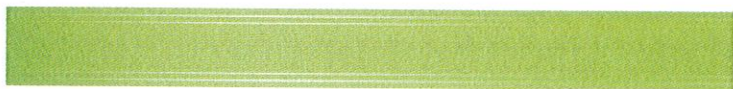
The paper clip is 1 inch long.
Estimate the length of the ribbon.



Each edge of the cube is 1 cm.
Estimate the length of the ribbon.



8



9



10



11



12



A	B	C	D	E	F
6 in.	5 cm	4 in.	2 in.	1 in.	10 cm
G	H	I	J	K	L
3 in.	12 cm	2 cm	15 cm	6 cm	5 in.

Objective: Estimate length in inches and centimeters.



Add and Subtract Lengths

Find the missing number. Use the number line.



1 $76 \text{ ft} + 18 \text{ ft} = \blacksquare \text{ ft}$

2 $94 \text{ in.} - 15 \text{ in.} = \blacksquare \text{ in.}$

3 $85 \text{ ft} + 12 \text{ ft} = \blacksquare \text{ ft}$

4 $95 \text{ ft} - \blacksquare \text{ ft} = 76 \text{ ft}$

5 $81 \text{ ft} + \blacksquare \text{ ft} = 98 \text{ ft}$

6 $85 \text{ in.} - 9 \text{ in.} = \blacksquare \text{ in.}$

7 $79 \text{ in.} - \blacksquare \text{ in.} = 75 \text{ in.}$

8 $8 \text{ ft} + 88 \text{ ft} = \blacksquare \text{ ft}$

9 $8 \text{ ft} + 78 \text{ ft} = \blacksquare \text{ ft}$

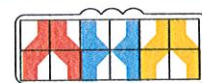
10 $77 \text{ ft} + \blacksquare \text{ ft} = 98 \text{ ft}$

11 $82 \text{ ft} + 13 \text{ ft} = \blacksquare \text{ ft}$

12 $100 \text{ in.} - 19 \text{ in.} = \blacksquare \text{ in.}$

A	B	C	D	E	F
95	17	96	81	21	4
97	86	79	76	19	94
G	H	I	J	K	L

Objective: Add and subtract length using a number line within 100.



Four simple steps to success with VersaTiles®.

Grade

2



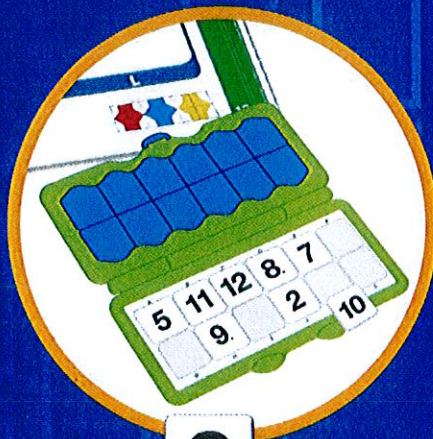
1

Answer questions



2

Flip and check



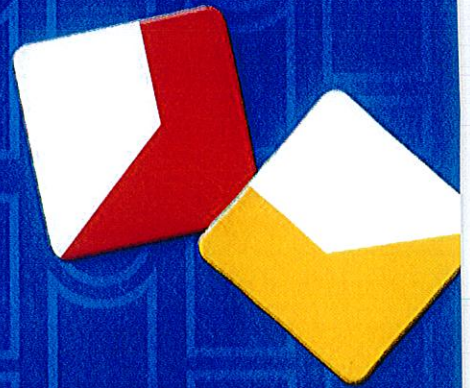
3

Open and self-correct



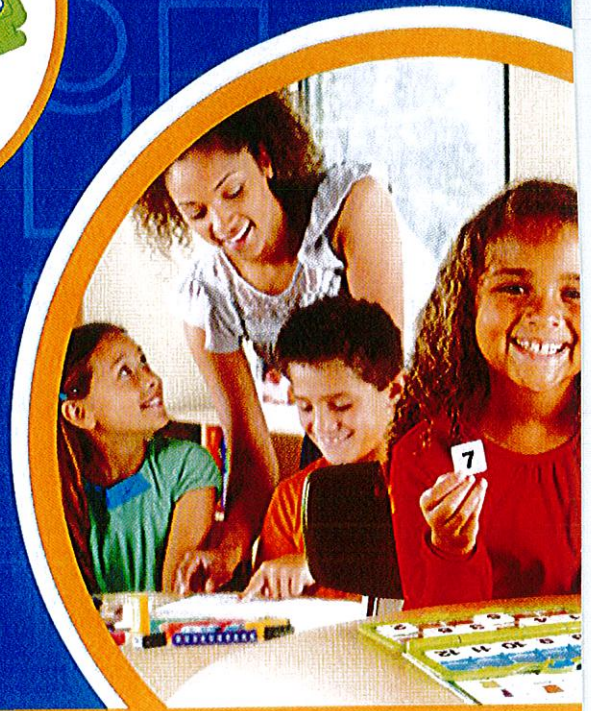
4

Match



Did you know...

- There are over 2,300 different answer patterns.
- You can write your own VersaTiles activities.
- You can practice at home.



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