A   # Correct _____

Find the missing length to make 1 meter.

1	10 cm + 90 = 100 cm	23	38 + 62 cm = 1 m
2	30 cm + 70 = 100 cm	24	28 + 72 cm = 1 m
3	50 cm + 50 = 100 cm	25	8 + 92 cm = 1 m
4	70 cm + 30 = 100 cm	26	71 + 29 cm = 1 m
5	90 cm + 10 = 100 cm	27	61 + 39 cm = 1 m
6	80 cm + 20 = 100 cm	28	41 + 59 cm = 1 m
7	60 cm + 40 = 100 cm	29	11 + 89 cm = 1 m
8	40 cm + 60 = 100 cm	30	12 + 88 cm = 1 m
9	20 cm + 80 = 100 cm	31	32 + 68 cm = 1 m
10	21 cm + 79 = 100 cm	32	82 + 18 cm = 1 m
11	23 cm + 77 = 100 cm	33	85 + 15 cm = 1 m
12	25 cm + 75 = 100 cm	34	45 + 55 cm = 1 m
13	27 cm + 73 = 100 cm	35	44 cm + 56 = 1 m
14	37 cm + 63 = 100 cm	36	55 cm + 45 = 1 m
15	38 cm + 62 = 100 cm	37	88 cm + 12 = 1 m
16	39 cm + 61 = 100 cm	38	1 m = 67 + 33 cm
17	49 cm + 51 = 100 cm	39	1 m = 34 + 66 cm
18	50 cm + 50 = 100 cm	40	1 m = 1 + 99 cm
19	52 cm + 48 = 100 cm	41	100 cm — 1 m - 11 cm = 89 cm
20	56 cm + 44 = 100 cm	42	100 cm — 1 m - 15 cm = 85 cm
21	58 cm + 42 = 100 cm	43	100 cm — 1 m - 17 cm = 83 cm
22	62 cm + 38 = 100 cm	44	100 cm — 1 m - 19 cm = 81 cm

B

Correct _____

Find the missing length to make 1 meter.

1	1 cm + _99_ = 100 cm	23	_28_ + 72 cm = 1 m
2	10 cm + _90_ = 100 cm	24	_18_ + 82 cm = 1 m
3	20 cm + _80_ = 100 cm	25	_72_ + 28 cm = 1 m
4	40 cm + _60_ = 100 cm	26	_62_ + 38 cm = 1 m
5	60 cm + _40_ = 100 cm	27	_52_ + 48 cm = 1 m
6	80 cm + _20_ = 100 cm	28	_55_ + 45 cm = 1 m
7	90 cm + _10_ = 100 cm	29	_57_ + 43 cm = 1 m
8	70 cm + _30_ = 100 cm	30	_66_ + 34 cm = 1 m
9	50 cm + _50_ = 100 cm	31	_76_ + 24 cm = 1 m
10	30 cm + _70_ = 100 cm	32	_86_ + 14 cm = 1 m
11	31 cm + _69_ = 100 cm	33	_88_ + 12 cm = 1 m
12	33 cm + _67_ = 100 cm	34	_90_ + 10 cm = 1 m
13	35 cm + _65_ = 100 cm	35	11 cm + _89_ = 1m
14	37 cm + _63_ = 100 cm	36	33 cm + _67_ = 1 m
15	39 cm + _61_ = 100 cm	37	55 cm + _45_ = 1 m
16	49 cm + _51_ = 100 cm	38	1 m = _78_ + 22 cm
17	59 cm + _41_ = 100 cm	39	1 m = _12_ + 88 cm
18	60 cm + _40_ = 100 cm	40	1 m = _1_ + 99 cm
19	62 cm + _38_ = 100 cm	41	1 m - 1 cm = _99_
20	66 cm + _34_ = 100 cm	42	1 m - 5 cm = _95_
21	68 cm + _32_ = 100 cm	43	1 m - 7 cm = _93_
22	72 cm + _28_ = 100 cm	44	1 m - 17 cm = _83_

Name _____   Date _____
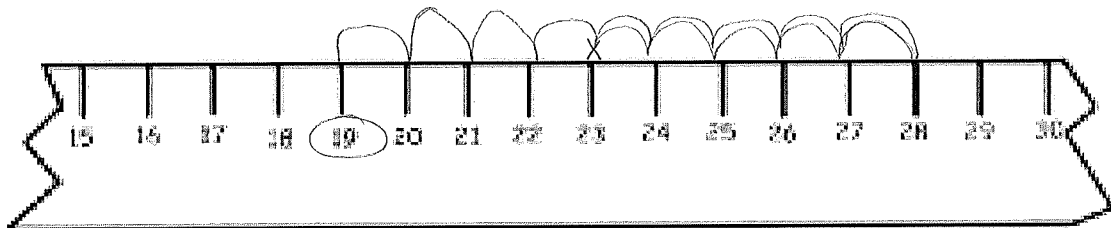
1.
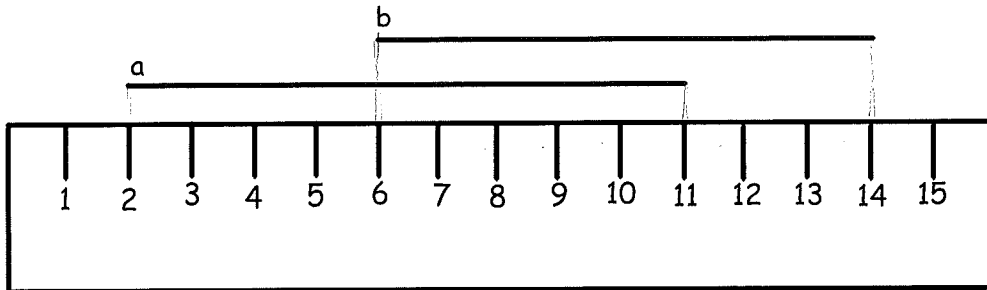
Line a is ___9___ cm long.

Line b is ___8___ cm long.

Together, Lines a and b measure ___17___ cm.

Line a is ___1___ cm (longer/shorter) than Line b.

2. A cricket jumped 5 centimeters forward and 9 centimeters back then stopped. If the cricket started at 23 on the ruler, where did the cricket stop? Show your work on the broken centimeter ruler.

19cm

3. Marty made a train of red and yellow centimeter cubes that measured 16 centimeters in length. He added 11 more yellow cubes and removed 8 red cubes. What is the length of the train now?
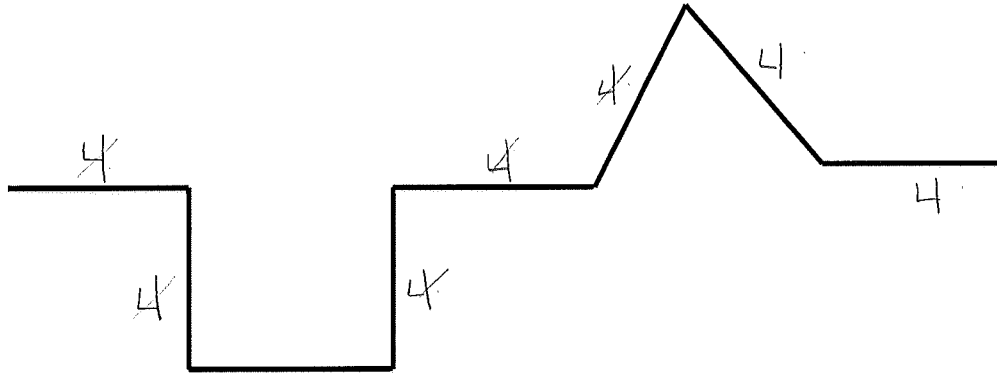
$$\begin{array}{r} 16 \\ + 11 \\ \hline 27 \end{array}$$

27 − 8 = 19

17 + 2

19cm long

COMMON CORE　|　Lesson 8:　Solve addition and subtraction word problems using the ruler as a number line.　　engage^ny　2.D.10

Date:　6/26/13

4. Each of the parts of the path below is 4 length units. What is the total length of the path? _32_ length units.

$4+4=8$
$8+8=16$
$16+16=20+12=22$
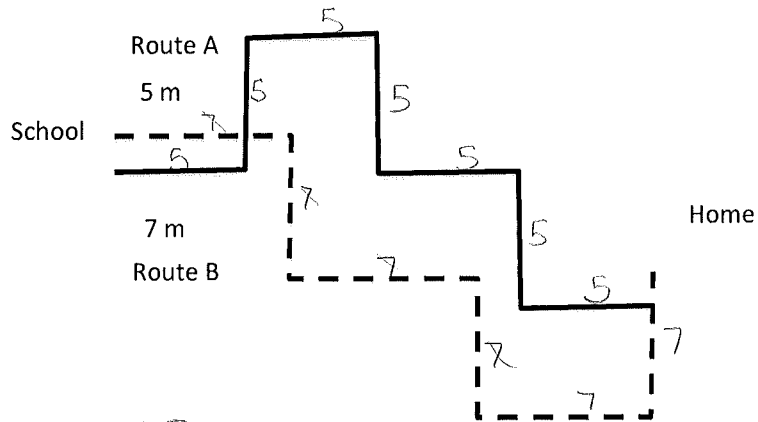$10\ 6\ 10\ 6$
$20+12$

5. Ben took two different ways home from school to see which way was the quickest. All streets on Route A are the same length. All streets on Route B are the same length.

$7+7=14$
$14+14=28$
$28+14=42$
$20\ 8\ 10\ 4$
$30+12$

Route A
5 m

School

7 m
Route B

Home

a. How many meters is Route A? _35_ m.

b. How many meters is Route B? _42_ m.

c. What is the difference between Route A and Route B? _7_ m. $42-35$

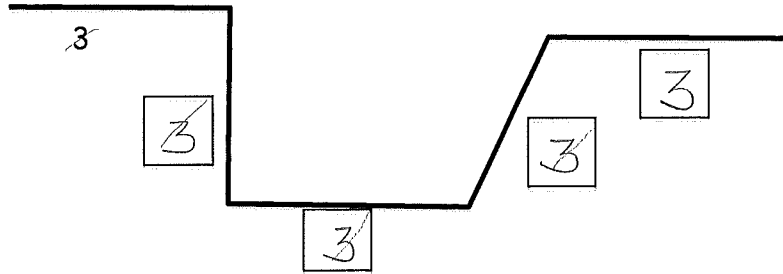d. Which route should Ben take if he wants to get home quickly? _Route A_

Name _____   Date _____

1. Using the ruler below draw one line that begins at 2 cm and ends at 12 cm. Label that line R. Draw another line that begins at 5 cm and ends at 11 cm. Label that line S.

    a. Add 3 cm to Line R and 4 cm to Line S.

    b. How long is the new line extended from R? ____13____ cm

    c. How long is the new line extended from Line S? ____10____ cm

    d. The new line extended from Line S is ____5____ cm (shorter/longer) than the new line extended from Line R.

COMMON CORE | Lesson 8:   Solve addition and subtraction word problems using the ruler as a number line.
              | Date: 6/26/13

engage^ny   2.D.12

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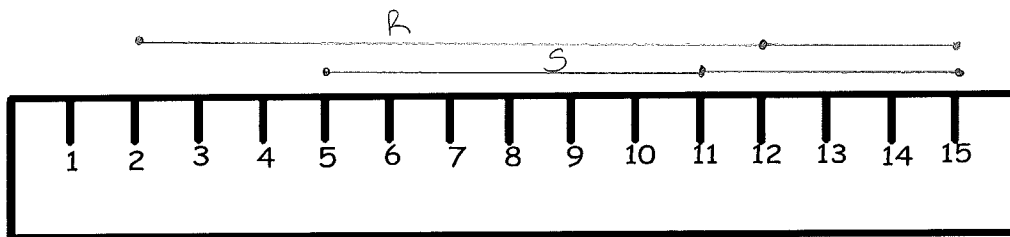
3. All of the sides of the line below are equal length units.

3 + 3 = 6
6 + 6 = 12
12 + 3 = 15

15 + 3 = 18
18 + 3 = 21

a. Fill in the empty boxes with the lengths of each side.

b. The line is __15__ length units.

c. How many lines would you need to add for the line to be 21 length units? __2__

lines

4. The length of a picture is 67 centimeters. The width of the picture is 48 centimeters. How many more centimeters is the length than the width?
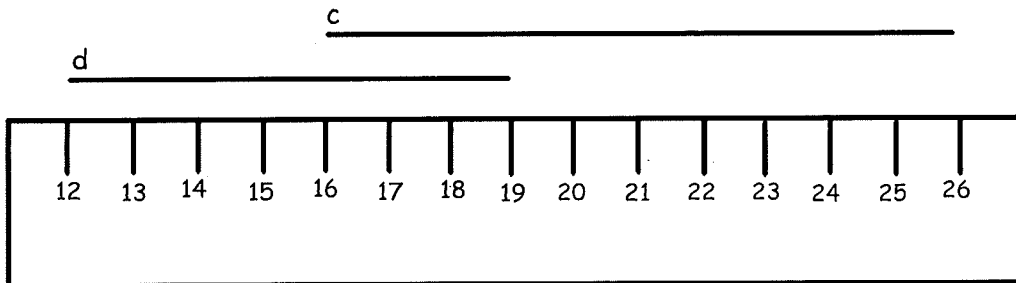
67 − 48 = 19 cm

COMMON CORE | Lesson 8:   Solve addition and subtraction word problems using the ruler as a number line.
Date: 6/26/13

engage^ny   2.D.14

Name _____   Date _____

1. Line c is ___10___ cm.

   Line d is ___7___ cm.

   Lines c and d are ___17___ cm.

   Line c is ___3___ cm (longer/shorter) than Line d.

c   _____

d   _____

12	13	14	15	16	17	18	19	20	21	22	23	24	25	26

2. A cardinal flew 12 meters north and then turned around and flew 5 meters south. His starting point is marked on the ruler. Where did is the cardinal now? Show your work on the broken ruler.

The cardinal is at 18.

South   North

10   11   12   13   14   15   16   17   18   19   20   21   22   23   24

Start
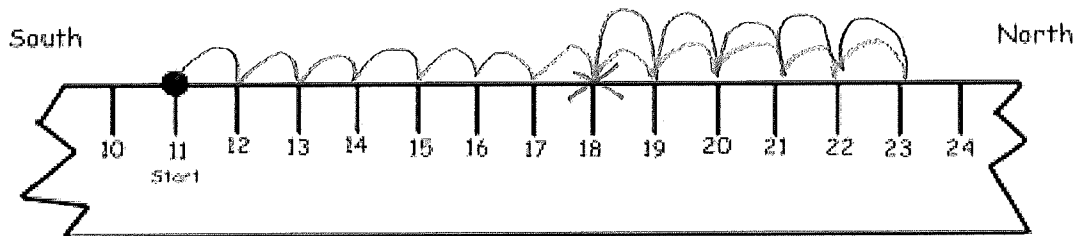
Name _____   Date _____

1. Complete the chart by first estimating the measurement around a classmate's body part. Then find the actual measurement with a meter tape. *Answers will vary

Student Name	Body Part Measured	Estimated Measurement in Centimeters	Actual Measurement in Centimeters
	Neck		
	Wrist		
	Head		

   a. Which was longer, your estimate or the actual measurement around your classmate's head? _____

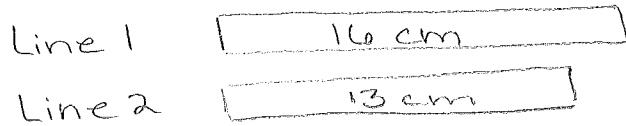   b. Draw a tape diagram to compare two actual lengths from your chart.

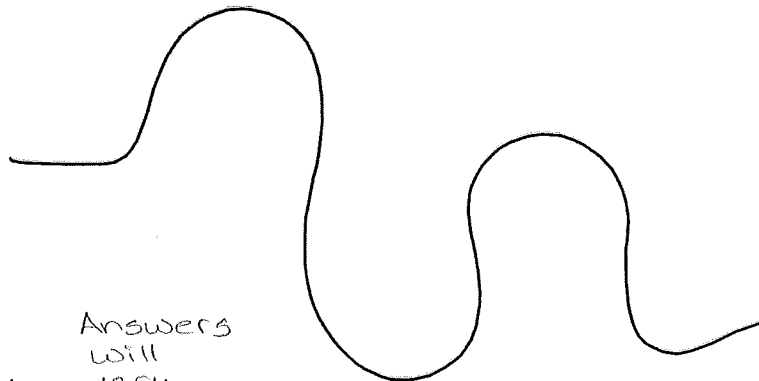2. Use a string to measure all three lines.

   Line 1
   16cm

   Line 2
   13cm

   Line 3
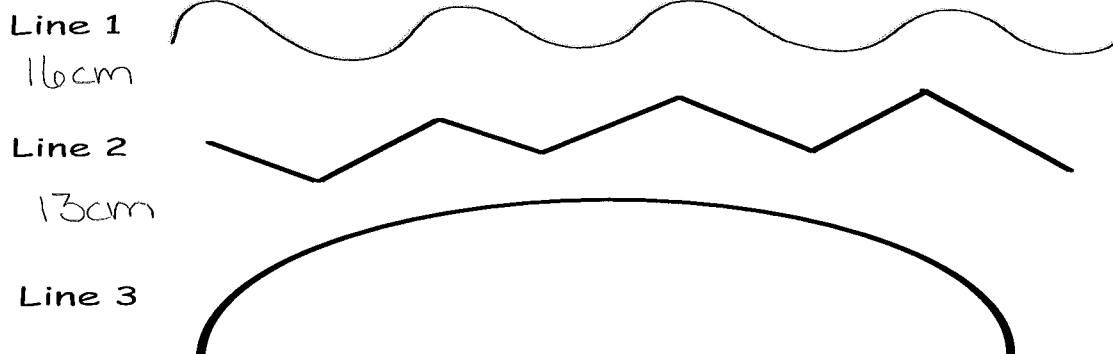
   Which line is the longest? __1__

Which line in the shortest? __2__

Draw a tape diagram to compare two of the lengths.

Line 1   [16 cm   ]

Line 2   [13 cm   ]

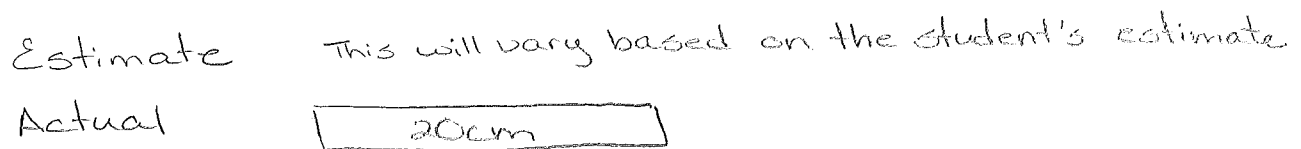3. Estimate the length of the line below in centimeters.

The line is about __vary__ cm.   Answers will

Use your piece of string to measure the length of the line. Then measure the string with your ruler.

The actual length of the line is __20__ cm.

Draw a tape diagram to compare your estimation and the actual length of the line.

Estimate   This will vary based on the student's estimate

Actual   [20cm   ]

COMMON CORE

Lesson 9:   Concrete to abstract: measure the lengths of string using measurement tools; represent length with tape diagrams to represent and compare the lengths.
Date: 6/26/13

engage^ny   2.D.21

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Name _____   Date _____

1. Measure the two lines by using your string. Write the length in centimeters.
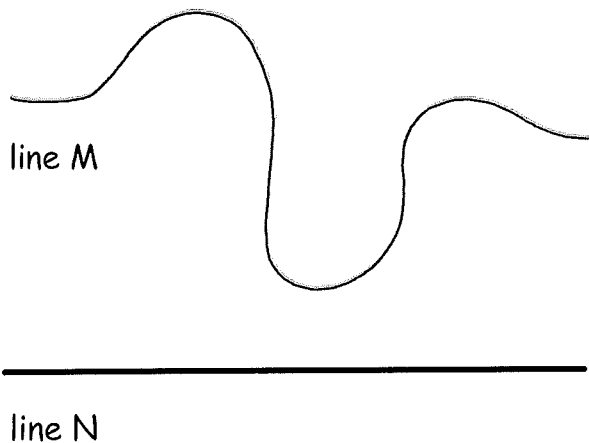
line M

line N

Line M is __13__ cm long.

Line N is __8__ cm long.

2. Mandy measured the lines and said both lines are the same length.
   Is Mandy's answer correct? Yes or no. __no__

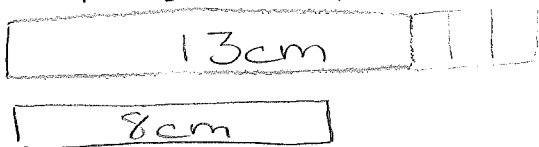   Explain why or why not.   over Line M, then laid it
   I put the string at "0" and measured
   on the ruler. Line M is longer.

3. Draw a tape diagram to compare the two lengths.

   | 13cm |

   | 8cm |

COMMON CORE | Lesson 9: | Concrete to abstract: measure the lengths of string using measurement tools; represent length with tape diagrams to represent and compare the lengths.
Date: | 6/26/13
engage^ny   2.D.22

Name _____   Date _____

1. Find the measurement around three round objects in your house. Complete the chart below.   *Answers will vary based on what the student measures.

Object Name	Estimated Measurement in Centimeters	Actual Measurement in Centimeters

a. What is the difference between the greatest and shortest measurements?
_____cm.

b. Draw a tape diagram comparing the estimated measurements.

c. Draw a tape diagram to compare the actual measurements.

Lesson 9:   Concrete to abstract: measure the lengths of string using measurement tools; represent length with tape diagrams to represent and compare the lengths.
Date: 6/26/13
engage^ny   2.D.23

2. Measure the two lines below.

fixed
9 cm

line A _____

line B ⌒‿⌒‿

a. Line A is __9__ cm.

b. Line B is __10__ cm.

c. Together, lines A and B measure __19__ cm.

d. Line A is __1__ cm (shorter/longer) than line B.

3. Kim is decorating a table for a party. Measure the ribbon she is using to decorate.
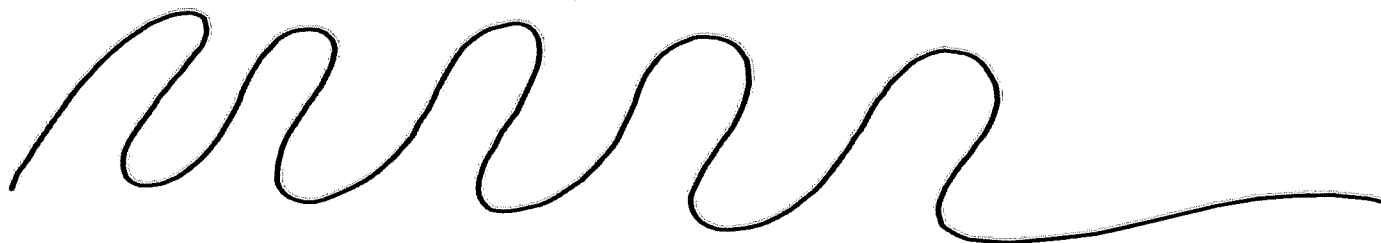
The ribbon is __41__ cm long.

Kim needs 1 meter of ribbon.

How much more ribbon does Kim need than what she has? __59__ cm.
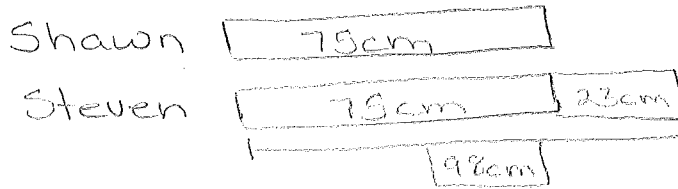
100 − 41

COMMON CORE

Lesson 9:
Date:

Concrete to abstract: measure the lengths of string using measurement tools; represent length with tape diagrams to represent and compare the lengths.
6/26/13

engage^ny   2.D.24

4. Shawn and Steven had a contest to see who could jump the furthest. Shawn jumped 75 centimeters. Steven jumped 23 more centimeters than Shawn.

a. How far did Steven jump? _____98_____ centimeters   75 + 23

b. How won the jumping contest? ___Steven___

c. Draw a tape diagram to compare the lengths that Shawn and Steven jumped.

Shawn [75cm]
Steven [75cm] 23cm
       [98cm]

COMMON CORE

Lesson 9:   Concrete to abstract: measure the lengths of string using measurement tools; represent length with tape diagrams to represent and compare the lengths.
Date: 6/26/13

engage^ny   2.D.25

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A   # Correct _____

Subtract

1	53 - 2 =	51	23	84 - 40 =	44
2	65 - 3 =	62	24	80 - 50 =	30
3	77 - 4 =	73	25	86 - 50 =	36
4	89 - 5 =	84	26	70 - 60 =	10
5	99 - 6 =	93	27	77 - 60 =	17
6	28 - 7 =	21	28	80 - 70 =	10
7	39 - 8 =	31	29	88 - 70 =	18
8	31 - 2 =	29	30	48 - 4 =	44
9	41 - 3 =	38	31	80 - 40 =	40
10	51 - 4 =	47	32	81 - 40 =	41
11	61 - 5 =	56	33	46 - 3 =	43
12	30 - 9 =	21	34	60 - 30 =	30
13	40 - 8 =	32	35	68 - 30 =	38
14	50 - 7 =	43	36	67 - 4 =	63
15	60 - 6 =	54	37	67 - 40 =	27
16	40 - 30 =	10	38	89 - 6 =	83
17	41 - 30 =	11	39	89 - 60 =	29
18	40 - 20 =	20	40	76 - 2 =	74
19	42 - 20 =	22	41	76 - 20 =	56
20	80 - 50 =	30	42	54 - 6 =	48
21	85 - 50 =	35	43	65 - 8 =	57
22	80 - 40 =	40	44	87 - 9 =	78

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Date: 6/26/13

B   Improvement _____   # Correct _____

Subtract

1	43 - 2 =	41	23	94 - 50 -	44
2	55 - 3 =	52	24	90 - 60 -	30
3	67 - 4 =	63	25	96 - 60 =	36
4	79 - 5 =	74	26	80 - 70 =	10
5	89 - 6 =	83	27	87 - 70 =	17
6	98 - 7 =	91	28	90 - 80 =	10
7	29 - 8 =	21	29	98 - 80 =	18
8	21 - 2 =	19	30	39 - 4 =	35
9	31 - 3 =	28	31	90 - 40 =	50
10	41 - 4 =	37	32	91 - 40 =	51
11	51 - 5 =	46	33	47 - 3 =	44
12	20 - 9 =	21	34	70 - 30 =	40
13	30 - 8 =	32	35	78 - 30 =	48
14	40 - 7 =	33	36	68 - 4 =	64
15	50 - 6 =	44	37	68 - 40 =	28
16	30 - 20 =	10	38	89 - 7 =	82
17	31 - 20 =	19	39	89 - 70 =	19
18	50 - 30 =	20	40	56 - 2 =	54
19	52 - 30 =	22	41	56 - 20 =	36
20	70 - 40 =	30	42	34 - 6 =	28
21	75 - 40 =	35	43	45 - 8 =	37
22	90 - 50 =	40	44	57 - 9 =	48

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COMMON CORE | Lesson 10:   Apply conceptual understanding of measurement by solving two-step word problems.

Date: 6/26/13
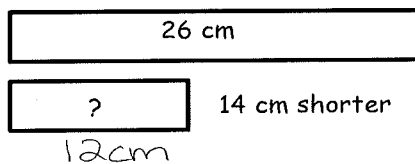
engage^ny   2.D.32

Name _____   Date _____

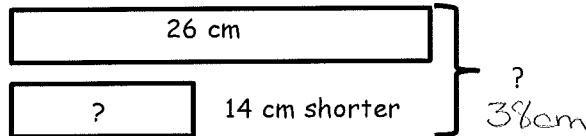Draw a tape diagram for each step.

1. Maura's ribbon is 26 cm long. Colleen's ribbon is 14 cm shorter than Maura's ribbon. What is the total length of both the ribbons?

   Step 1: Find the length of Colleen's ribbon.

26 cm

   | ? | 14 cm shorter
   |---|

   12cm

   $26 - 14 = 12 cm$

   Step 2: Find the length of both ribbons.

26 cm

   | ? | 14 cm shorter
   |---|

   ?
   38cm

   $26 + 12 = 38 cm$

2. Jesse's doll is 30 cm tall. Sarah's doll is 9 cm shorter than Jessie's doll. What is the total length of both dolls?

   Step 1: Find the length of Sarah's doll.

   $30 - 9 = 21 cm$

 | 30 cm |
   |---|

   | ? | 9cm shorter
   |---|

   Step 2: Find the length of both dolls.

30 cm

21 cm

   ?

   $30 + 21 = 51 cm$

COMMON CORE | Lesson 10:   Apply conceptual understanding of measurement by solving two-step word problems.   engage^ny   2.D.33

Date: 6/26/13
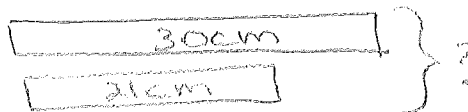
3. Steven has a black leather strip that is 13 centimeters long. He cut off 5 centimeters. His teacher gave him a brown leather strip that is 16 centimeters long. What is the total length of both strips?

Step 1: Find the length of black leather strip after being cut.

$13 - 5 = 8 cm$
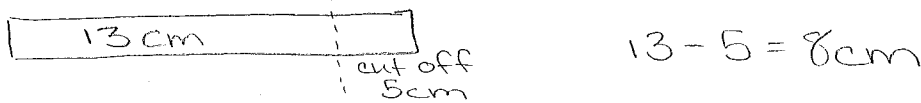
Step 2: Find the length of the black and brown leather strips together.

$8 + 16 = 24 cm$

4. Pam and Mark measured the distance around each other's wrists. Pam's measured 10 cm. Mark's measured 3 cm more than Pam's. What might be the total length around their wrists (all four wrists).

Step 1: Find the distance around both Mark's wrists.

$10 + 3 = 13 cm$

$13 + 13 = 26 cm$

Step 2: Find the total measurement of all four wrists.

$10 + 10 = 20 cm$

$20 + 26 = 46 cm$

COMMON CORE | Lesson 10: | Apply conceptual understanding of measurement by solving two-step word problems.
Date: | 6/26/13
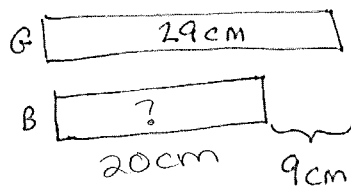
engage^ny   2.D.34

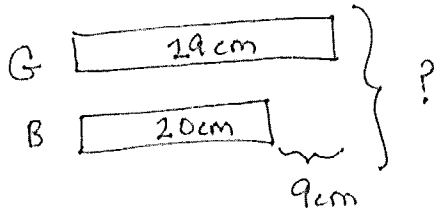Name _____   Date _____

Draw a tape diagram for each step.

1. There is 29 cm of green ribbon. A blue ribbon is 9 cm shorter than the green ribbon. How long is the green ribbon?

Step 1: Find the length of blue ribbon.

$$29 - 9 = 20 cm$$

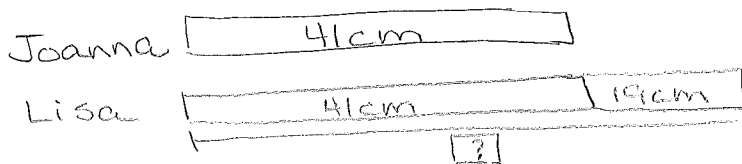Step 2: Find the length of both the blue and green ribbons.
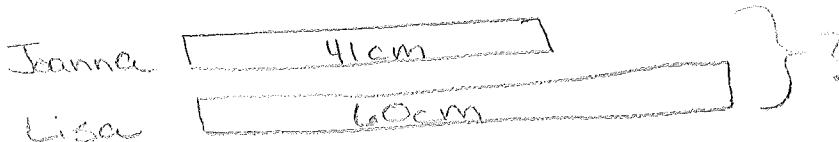
$$29 + 20 = 49 cm$$

2. Joanna and Lisa drew lines. Joanna's line is 41 cm long. Lisa's line is 19 cm longer than Joanna's. How long are Joanna and Lisa's lines?

Step 1: Find the length of Lisa's line.

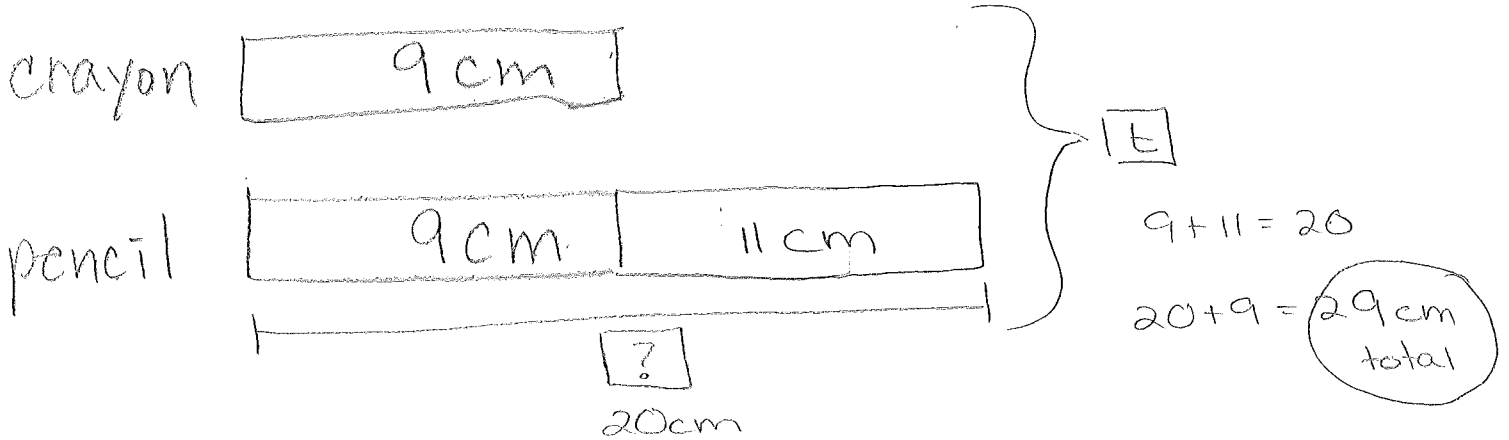$$41 + 19 = 60 cm$$

Step 2: Find the total length of their lines.

$$41 + 60 = 101 cm$$

COMMON CORE | Lesson 10:   Apply conceptual understanding of measurement by solving two-step word problems.   engage^ny   2.D.36

Date: 6/26/13

Name _____   Date _____

The length of a crayon is 9 centimeters. A pencil is 11 centimeters longer than the crayon. What is the total length of both the crayon and the pencil?

crayon | 9 cm |

pencil | 9 cm | 11 cm |

?

20 cm

t

9 + 11 = 20

20 + 9 = 29 cm total

COMMON CORE

Lesson 10:   Apply conceptual understanding of measurement by solving two-step word problems.
Date: 6/26/13

engage^ny   2.D.35

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2. Samantha and Bill are having a bean bag throwing contest and need to measure each of their throws.
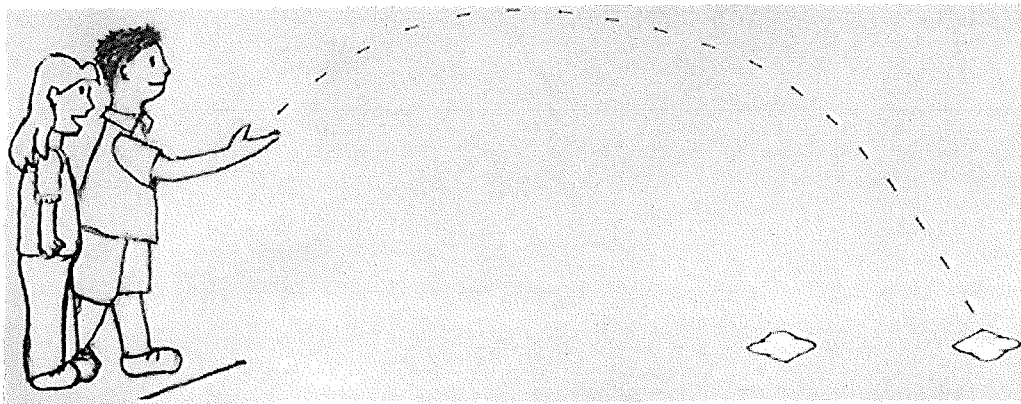
a. Circle the most appropriate tool to measure their throws.

ruler   paper clips   (meter stick)   centimeter cubes

b. Explain your choice using pictures or words.

They threw great distances so a meter stick measures large distances.

c. Bill throws his bean bag 5 meters, which was 2 meters farther than Samantha threw her bean bag. How far did Samantha throw her bean bag? Draw a diagram or picture to show the length of their throws.

Bill [| | | | |]   3 m
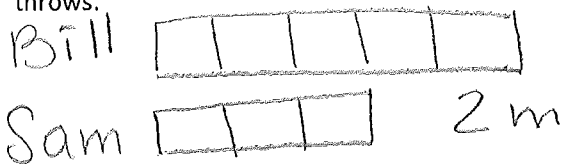
Sam [| | |]   2 m

d. Sarah threw her bean bag 3 meters farther than Bill. Who won the contest? How do you know?

Bill [| | | | |]
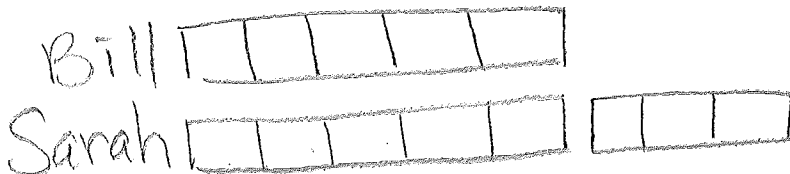
Sarah [| | | | | | | |]

Sarah won because 8 is greater than 5.

c.   Estimate the length of Ribbon B in paper clips.

_____2___paper clips

d.   How much longer is Ribbon A than Ribbon B? Give your answer in centimeters.

Ribbon B = 5cm

11 − 5 = 6cm

e.   Vanessa is using the ribbons to wrap a gift. If she tapes the ribbons together with no overlap, how many centimeters of ribbon does she have altogether?

11 cm	5 cm
?	

11 + 5 = 16 cm

f.   If Vanessa needs 20 centimeters of ribbon, how much more does she need?

20 − 16 = 4cm