Released Form

Published February 2026

Grade 7 Mathematics

North Carolina End-of-Grade Assessment

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1   Which expression is equivalent to $2x + 4(x - 3) - 5x + 2$?

   A $x - 14$

   B $x - 10$

   C $x - 5$

   D $x - 1$

2   Which side measurements will form a triangle?

   A   8 cm, 9 cm, 13 cm

   B   8 cm, 9 cm, 17 cm

   C   7 cm, 7 cm, 14 cm

   D   6 cm, 8 cm, 15 cm

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Question 3 requires you to write your answer in the boxes. Write only one number or symbol in each box.

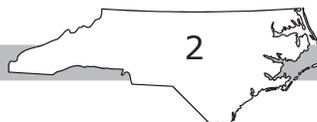3 Jeremy recorded the low temperatures for 5 days. The temperatures are shown.

$$^-5°F, 2°F, 5°F, ^-3°F, 8°F$$

What was the mean low temperature for the 5 days, in degrees Fahrenheit?

Only 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, ., -, and / are allowed in your answer.
Mixed numbers are entered by adding a space after the whole number.
Spaces are only allowed between whole numbers and fractions.

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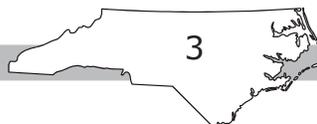
4   Which choice is the solution to the inequality shown below?

$$2x + 2 > {}^-16$$

A $x > {}^-7$

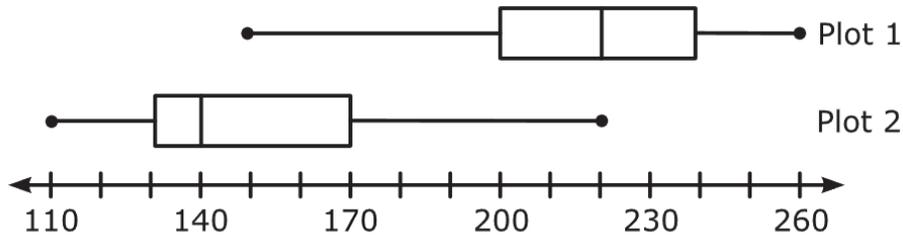B $x > {}^-9$

C $x > {}^-10$

D $x > {}^-36$

5   Two box plots are shown.

Which statement is true?

A   The range of Plot 1 is larger than the range of Plot 2.

B   The range of Plot 2 is larger than the range of Plot 1.

C   The interquartile range of Plot 1 is larger than the interquartile range of Plot 2.

D   The interquartile range of Plot 1 is the same as the interquartile range of Plot 2.

Question 6 requires you to write your answer in the boxes. Write only one number or symbol in each box.

6   A worm moves $\frac{1}{8}$ of a foot in $\frac{1}{10}$ of an hour. At this rate, how many feet will the worm move in 4 hours?

Only 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, ., -, and / are allowed in your answer.
Mixed numbers are entered by adding a space after the whole number.
Spaces are only allowed between whole numbers and fractions.

5
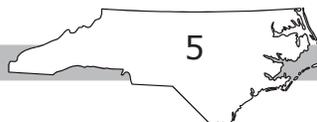
7   Yasmine is running for student council president. She wants to know how likely she is to win. She will survey people with the question, "For which person would you vote in the student council election?" Which is the *best* survey strategy?

   A   Survey 20 of her closest friends.

   B   Survey 20 random students in art classes.

   C   Survey 50 random students as they walk into the school.

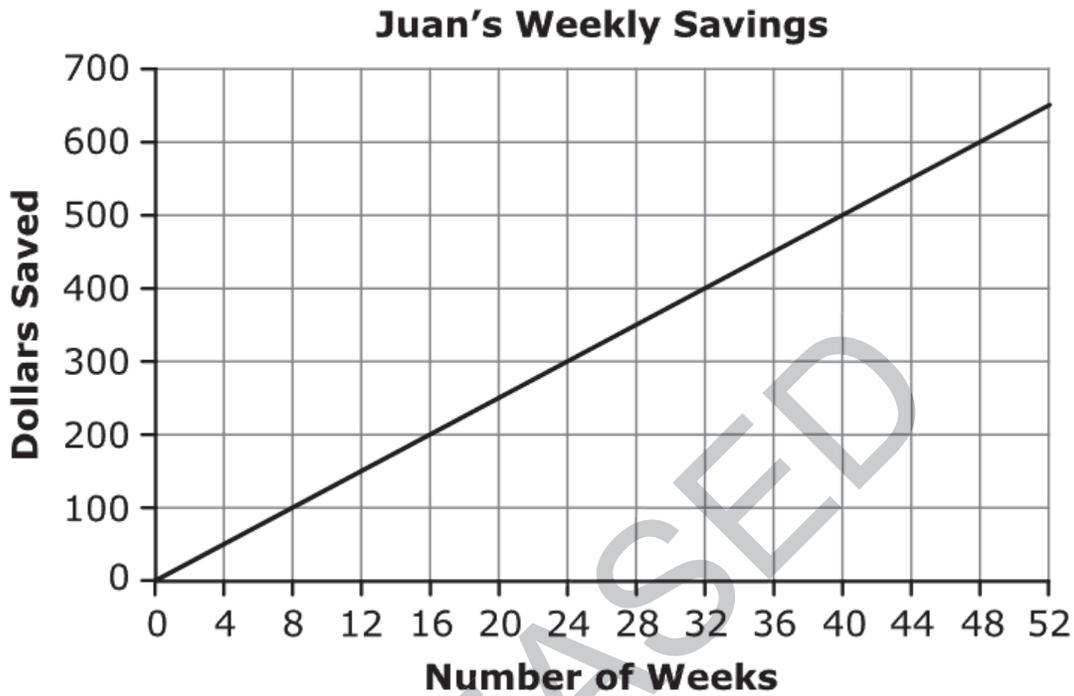   D   Survey 50 random students who have known her since elementary school.
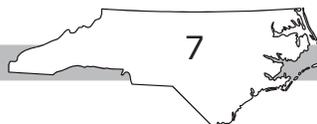
6
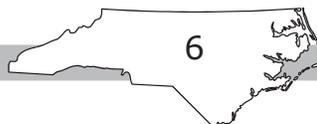
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8   The graph shows Juan's weekly savings for one year.

Juan's Weekly Savings

Which equation represents Juan's savings, S, after w weeks?

A $S = 12.50w$

B $S = 8w$

C $S = 25w$

D $S = 100w$

7

Go to the next page.

Questions 9 and 10 require you to write your answers in the boxes. Write only one number or symbol in each box.

9   Kyle rolls a number cube and flips a fair coin. What is the probability of the number cube landing on a number greater than 3 and the coin landing on heads?

Only 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, ., -, and / are allowed in your answer. Mixed numbers are entered by adding a space after the whole number. Spaces are only allowed between whole numbers and fractions.

10   What is the value of the expression shown below?

$$\frac{3}{2} + \frac{2}{5} - \frac{3}{4}$$

Only 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, ., -, and / are allowed in your answer. Mixed numbers are entered by adding a space after the whole number. Spaces are only allowed between whole numbers and fractions.
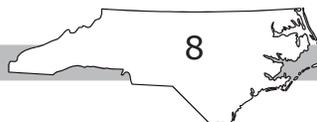
8

11   Which choice is equivalent to the expression shown below?
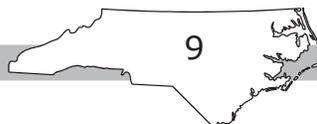
$$\frac{4(x + 10)}{2} + 2(x + 5)$$

A $4x + 10$

B $4x + 20$

C $4x + 30$

D $4x + 40$

12   Steve is ordering shirts.

- He has $49 to spend.
- Each shirt costs $12.
- There is an additional cost of $5 to ship the shirts.
- Let c represent the number of shirts.

Which inequality can be used to determine the number of shirts Steve could purchase?

A $17c \leq 49$

B $12c - 5 \leq 49$

C $12(c + 5) \leq 49$

D $12c + 5 \leq 49$

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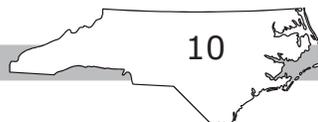
13   Randy's earnings based on the number of hours he worked are shown in the table.

Hours Worked	Earnings
6	$80.70
14	$188.30

Which equation can be used to determine Randy's earnings, *e*, if he works *h* hours?

A $e = 7.43h$
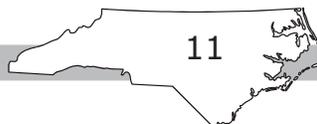
B $e = 13.45h$

C $e = 22.66h$

D $e = 31.38h$

14   What is the value of the expression $\dfrac{2x - 3y}{8z - 5}$ when $x = 3$, $y = {}^-2$, and $z = 1$?

    A $^-9$

    B $^-2$

    C   0

    D   4

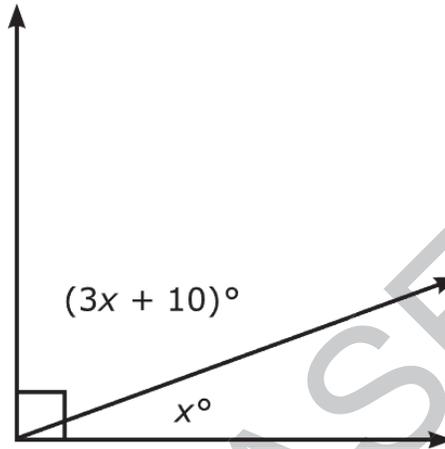**Question 15 requires you to write your answer in the boxes. Write only one number or symbol in each box.**

15   In the diagram below, what is the value of x?

$(3x + 10)°$

$x°$

Only 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, ., -, and / are allowed in your answer. Mixed numbers are entered by adding a space after the whole number. Spaces are only allowed between whole numbers and fractions.

|								

This is the end of the calculator inactive test questions.

Directions:

1. **Look back over your answers for the calculator inactive questions. You will not be able to go back and work on these questions once you are given a calculator.**

2. **Make sure all your answers are entered appropriately in your book.**

3. **Raise your hand to let your teacher know you are ready to begin the calculator active test questions.**

4. **Do not begin work on the calculator active test questions until your teacher has given you a calculator.**

13
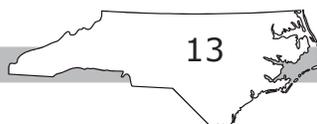
16   The table shows Mr. Thomas's 5th-period and 6th-period test scores.

5th Period	6th Period
69	77
54	87
78	75
84	84
82	65
98	92
95	80

How do the mean and mean absolute deviation (MAD) compare in the two sets of data?

A   The means are the same, and the MADs are the same.

B   The means are the same, but the 5th-period MAD is lower than the 6th-period MAD.

C   The 5th-period mean is higher, and the MADs are the same.

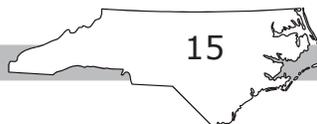D   The means are the same, but the 5th-period MAD is higher.

17   Three friends bought a pizza, 3 drinks, and a big cookie to share.

- The pizza cost $12.00.
- Each drink cost $1.50.
- The big cookie cost $4.00.
- The sales tax is 4.5%.

The three friends will each pay the same amount. How much will each friend pay for the meal?
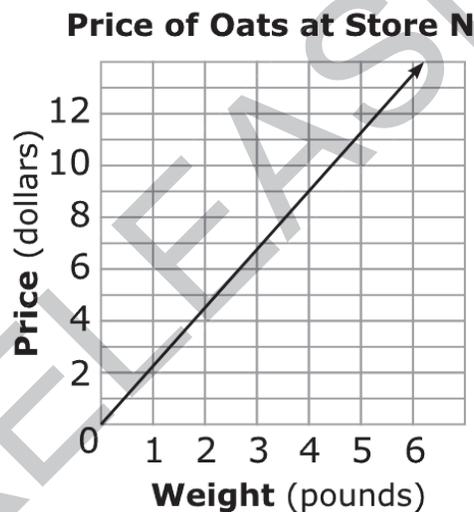
A $6.83

B $7.14

C $8.33

D $9.89

18   The table shows the price to purchase different amounts of oats at Store F.

Price of Oats at Store F

Weight (pounds)	Price (dollars)
4	$11.00
8	$22.00
12	$33.00
16	$44.00

The graph shows the price to purchase different amounts of oats at Store N.

Price of Oats at Store N

Which statement is true?

A   Store F sells oats for $0.75 less per pound than Store N.

B   Store F sells oats for $0.75 more per pound than Store N.

C   Store F sells oats for $0.50 less per pound than Store N.

D   Store F sells oats for $0.50 more per pound than Store N.
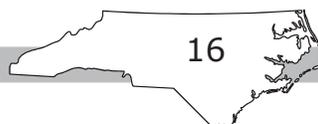
16   Go to the next page.

19   Cole made some ornaments.

- He sold $\frac{7}{8}$ of the ornaments he made.

- He gave 10% of the ornaments to a charity.

- He kept the remaining 8 ornaments to give as presents.

How many total ornaments did he make?

A   280
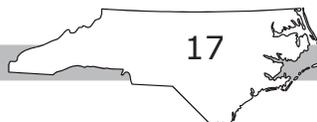
B   320

C   360

D   400

20   A box contains belts, shirts, and hats.

- For every 4 belts, there are 3 shirts.
- For every 2 shirts, there are 5 hats.

There are 75 hats in the box. How many belts are in the box?
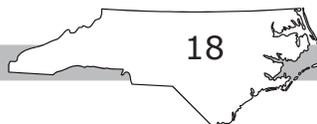
A   60

B   50

C   40

D   30

17

Go to the next page.

21   The cost of William's meal was $19.84. He wants to leave a 15% tip. ***Approximately*** how much tip should he leave?

A $3.00

B $2.00

C $1.50

D $0.15
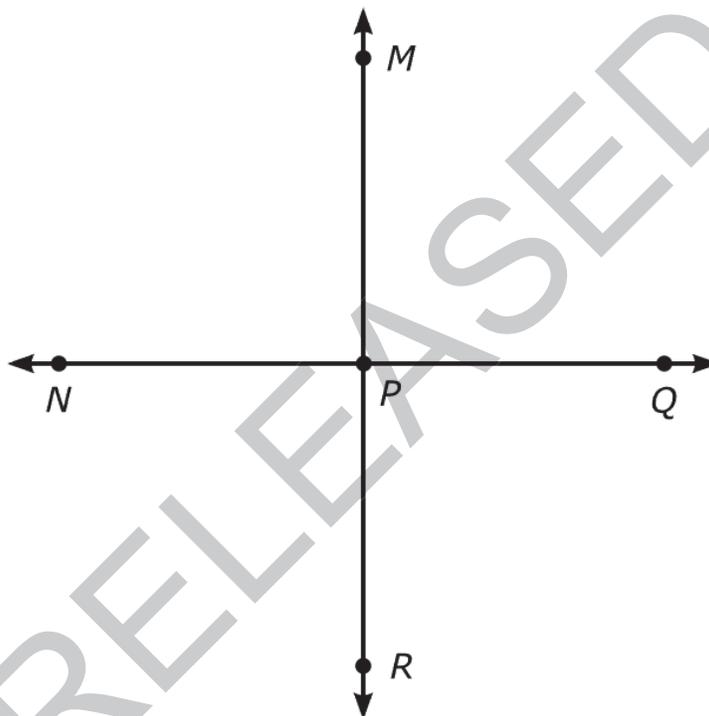
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Question 22 requires you to write your answer in the boxes. Write only one number or symbol in each box.
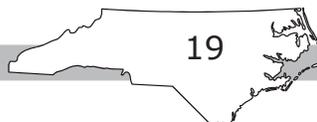
22   In the diagram, $\angle NPR = 90°$ and $\angle MPQ = \frac{1}{2}(x + 12)°$. Points N, P, and Q all lie on the same line.

What is the value of x?

Only 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, ., -, and / are allowed in your answer.
Mixed numbers are entered by adding a space after the whole number.
Spaces are only allowed between whole numbers and fractions.

23   Jason will spin each of the spinners shown one time.
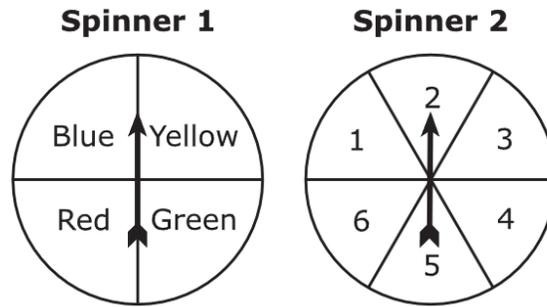
Spinner 1   **Spinner 2**

What is the probability that Spinner 1 will stop on Red and Spinner 2 will stop on a number less than 5?

A $\frac{1}{6}$

B $\frac{1}{10}$

C $\frac{5}{24}$

D $\frac{11}{12}$

Go to the next page.

Question 24 requires you to write your answer in the boxes. Write only one number or symbol in each box.

24 What is the value of the expression shown below?

$$\frac{1}{4}\left(\frac{5}{2} - \frac{9}{6}\right) + \frac{3}{8}\left(\frac{8}{5} + \frac{8}{3}\right)$$

Only 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, ., -, and / are allowed in your answer. Mixed numbers are entered by adding a space after the whole number. Spaces are only allowed between whole numbers and fractions.
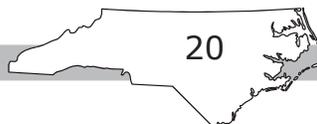
21
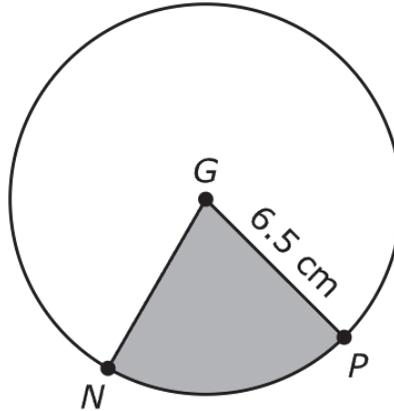
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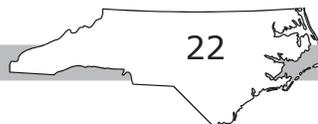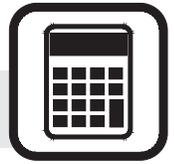
25   Circle *G* has a radius of 6.5 cm.

The area of the shaded portion of circle *G* is 25.7 cm². What is the **approximate** length of the shortest distance on the circle from point *N* to point *P*?

A   6.3 cm

B   7.9 cm

C   40.8 cm

D   132.8 cm

22

Go to the next page.

26   The table shows the quiz grades for students in two biology classes.

Class 1	98	94	65	76	84	94	90	84	76	67
Class 2	45	96	96	84	85	87	64	77	96	90

Which statement is true?

A   Class 1 has a larger mean and median than class 2.

B   Class 1 has a smaller mean and median than class 2.

C   Class 1 has a smaller mean than class 2 but a larger median.

D   Class 1 has a larger mean than class 2 but a smaller median.

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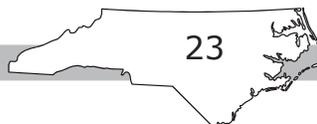
27   Nicole conducted a probability simulation.

- She wrote the letters A, D, D, I, T, I, O, and N on separate sheets of paper and placed them in a box.

- She then randomly selected a letter out of the box 50 times with replacement and recorded the results in the table shown.

Letter	Frequency
A	4
D	13
I	14
T	7
O	5
N	7

Nicole will select letters an additional 550 times with replacement. Based on the table, how many times should she expect to select a D?

A   117

B   130

C   143

D   156
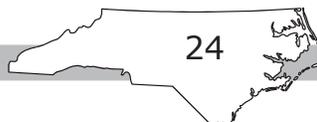
28   The graph shows the cost to purchase roses from a flower shop.

What is the cost per rose, to the nearest cent?

A $2.00

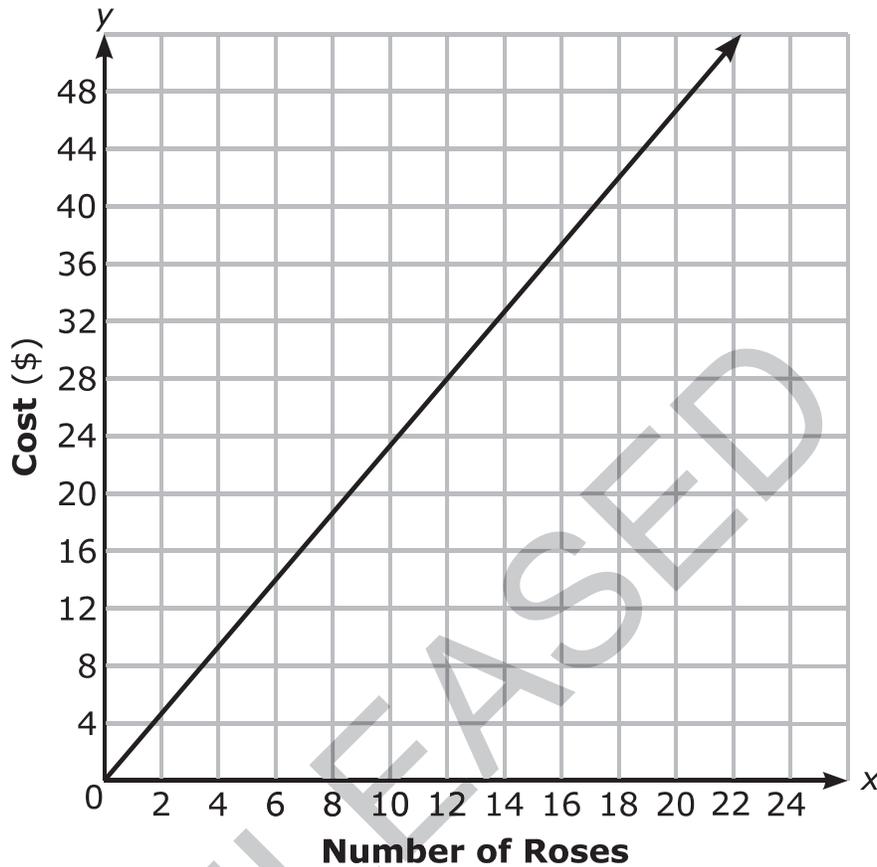B $2.25

C $2.33

D $2.66

25
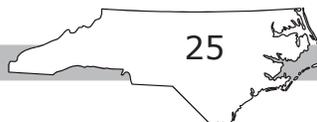
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Question 29 requires you to write your answer in the boxes. Write only one number or symbol in each box.

29   Quadrilateral *NPSU* is a rectangle in the diagram.
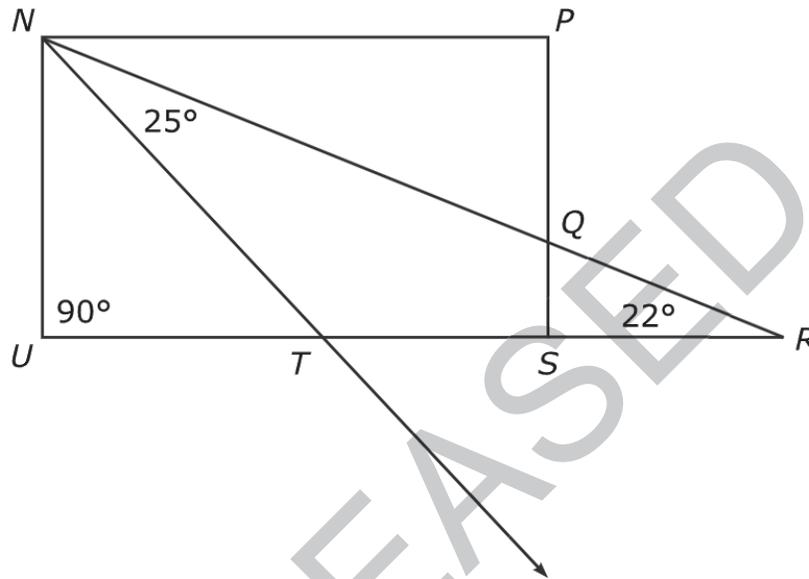
What is the measure of angle *UNT*, in degrees?

Only 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, ., -, and / are allowed in your answer.
Mixed numbers are entered by adding a space after the whole number.
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30   The seventh grade is having an ice-cream-sundae party. The menu for the party is listed here.

- vanilla or chocolate ice cream
- sprinkles, chocolate chips, or cherries
- hot fudge or strawberry syrup

Each student must choose one flavor of ice cream, one topping, and one flavor of syrup. What is the total number of possible ice-cream sundaes?
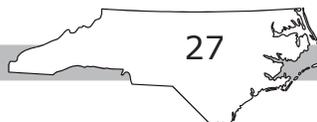
A   2

B   6

C   12

D   24

31   Hannah bought these items for her family.

- 3 drinks that cost $1.15 each
- 2 hot dogs that cost $2.25 each
- 2 hamburgers that cost $2.75 each
- 4 bags of chips that cost $0.75 each
- 1 pack of nachos for $3.35

She paid for all of this with a $20 bill. How much change did she get back?

A $1.20

B $0.72

C $0.45

D $0.20

32 Jeffrey and Lisa were picking strawberries from the garden. Jeffrey picked 6 strawberries per minute. The number of strawberries Lisa picked in different amounts of time is shown in the graph.
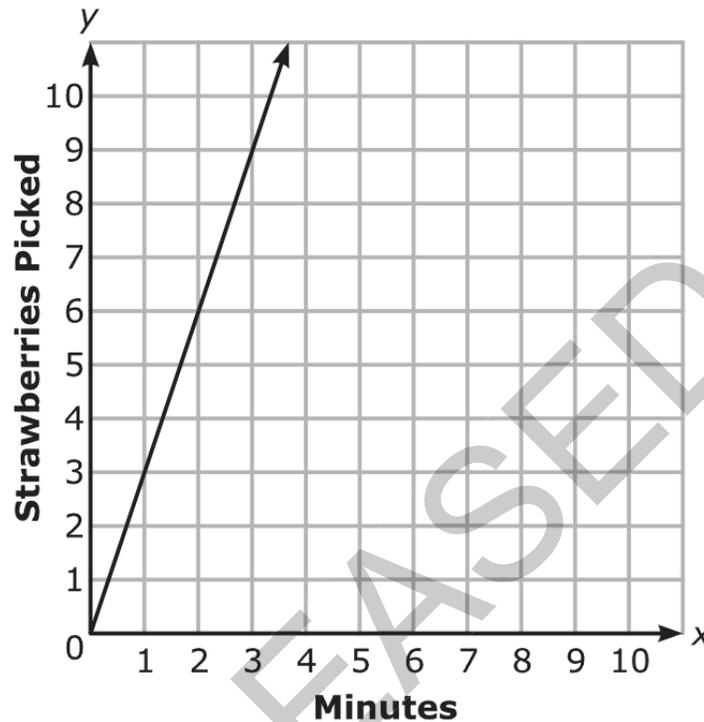
Which statement is true?

A   Jeffrey picks two times as many strawberries per minute as Lisa.

B   Lisa picks two times as many strawberries per minute as Jeffrey.

C   Jeffrey picks three times as many strawberries per minute as Lisa.

D   Lisa picks three times as many strawberries per minute as Jeffrey.
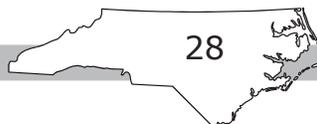
33   Jill has an empty container in the shape of a cube with a side length of 10 inches. She adds 800 in.³ of soil to the container. How much more soil is needed to fill the container?

   A   100 in.³

   B   200 in.³

   C   400 in.³

   D   1,800 in.³

34   The price of a dress on sale is $24. The original price of the dress was $29.95. What was the ***approximate*** percent discount?

   A   5%

   B   10%

   C   20%

   D   25%

35   Which expression is equivalent to $^-6(x + 4) - 4x$?

   A $^-2x + 4$

   B $^-2x - 24$

   C $^-10x + 4$

   D $^-10x - 24$
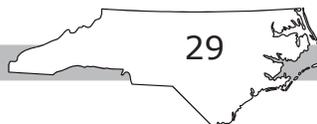
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Question 36 requires you to write your answer in the boxes. Write only one number or symbol in each box.

36   Juan has 48 marbles in a bag.

- The marbles are green, yellow, red, and blue.
- The chance of picking a green marble is 1 in 4.
- The chance of picking a yellow marble is 1 in 12.
- The chance of picking a red marble is 1 in 6.

What is the probability of picking a blue marble?

Only 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, ., -, and / are allowed in your answer.
Mixed numbers are entered by adding a space after the whole number.
Spaces are only allowed between whole numbers and fractions.
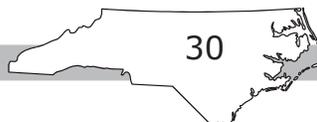
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37   The distance from William's house to the store is 3,600 feet. William walked to the store at a rate of 320 feet per minute. He walked home from the store at a rate of 800 feet per minute. ***About*** how much longer did it take William to walk to the store than to walk home?

     A   5 minutes

     B   7 minutes

     C   8 minutes

     D   11 minutes

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38   The graph shows the amount of sugar needed to make different amounts of cookies.
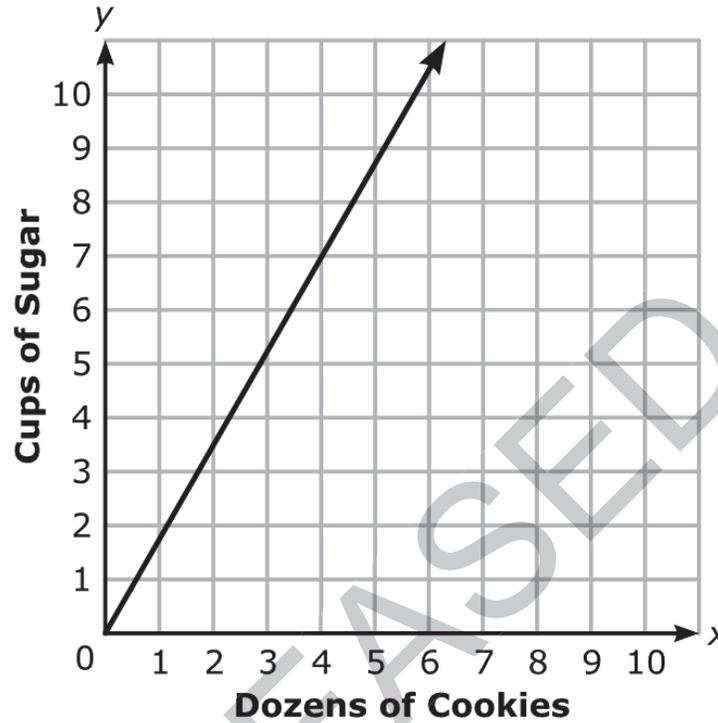
How many cups of sugar are needed per dozen cookies?

A   1.25 cups

B   1.5 cups

C   1.75 cups

D   2.0 cups
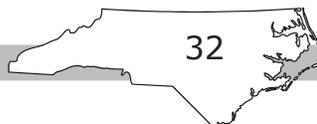
39   The table shows two sets of data.

Set 1	2	3	6	8	11	12
Set 2	0	4	4	4	12	18

How do the means for each set of data compare?

A   The mean of Set 1 is the same as the mean of Set 2.

B   The mean of Set 2 is 3 greater than the mean of Set 1.

C   The mean of Set 2 is 8 greater than the mean of Set 1.

D   The mean of Set 1 is 8 greater than the mean of Set 2.

40   Jerome wants to cover this box with paper. The shape of the box is a rectangular prism.
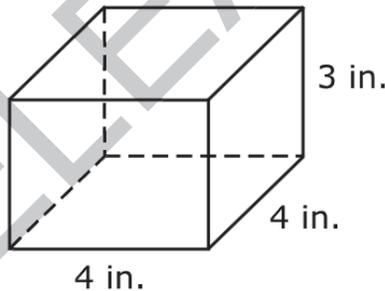
What is the minimum amount of paper needed to cover the box?

A   30 in.^{2}

B   48 in.^{2}

C   64 in.^{2}

D   80 in.^{2}

33
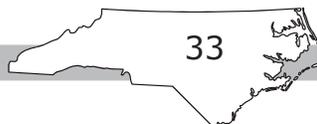
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41   Cathy has 6 pets. This is two more than twice as many pets as Amy. Which number sentence could be used to find the number of pets, p, Amy has?

A $2p + 2 = 6$

B $2p = 6$

C $2p - 2 = 6$

D $\frac{1}{2}p + 2 = 6$

42   Michelle has 4 hours of free time after school. Yesterday, she spent $\frac{1}{6}$ of the time on the computer, 15% of the time on the phone, $\frac{1}{8}$ of the time watching TV, and 20% of the time doing chores. She played basketball for the remainder of the time. How many minutes did she play basketball?

A   154 minutes

B   140 minutes

C   86 minutes

D   40 minutes

RELEASED

34
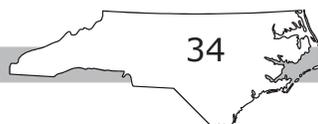
Go to the next page.

Question 43 requires you to write your answer in the boxes. Write only one number or symbol in each box.

43   Brice rode his bike $\frac{1}{9}$ of a mile in $\frac{1}{27}$ of an hour. At this rate, how many miles would Brice ride his bike in 2 hours?

Only 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, ., -, and / are allowed in your answer.
Mixed numbers are entered by adding a space after the whole number.
Spaces are only allowed between whole numbers and fractions.
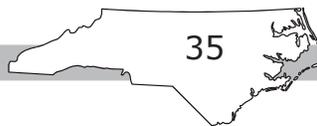
44 A dog walks $\frac{2}{3}$ of a mile in $\frac{1}{3}$ of an hour. At what rate is the dog traveling?

    A   2 miles per hour

    B   3 miles per hour

    C $\frac{2}{9}$ mile per hour

    D $\frac{2}{3}$ mile per hour

45 There are 6 red bookmarks, 7 blue bookmarks, 8 orange bookmarks, and 16 yellow bookmarks in a bag. Julio randomly chooses a bookmark. What is the probability that he will choose a color other than yellow?

    A $\frac{16}{37}$

    B $\frac{21}{37}$

    C $\frac{16}{21}$

    D $\frac{21}{16}$
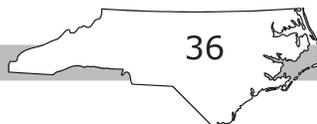
Go to the next page.

This is the end of the Mathematics test.

Directions:

1. **Look back over your answers for the calculator active questions only.**

2. **Make sure all your answers are entered appropriately in your book.**

3. **Put all of your papers inside your test book and close your test book.**

4. **Place your calculator on top of the test book.**

5. **Stay quietly in your seat until your teacher tells you that testing is finished.**

6. **Remember, teachers are not allowed to discuss questions from the test with you, and you are not allowed to discuss with others any of the test questions or information contained within the test.**
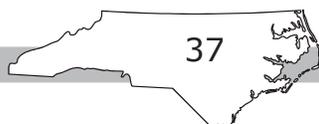
Grade 7
Mathematics
RELEASED Form
2026
Answer Key

Calculator Inactive

Item Number	Type	Key	DOK*	Standard
1	MC	B	1	7.EE.1
2	MC	A	1	7.G.2
3	GR	1.4	2	7.NS.3
4	MC	B	1	7.EE.4.b
5	MC	D	1	7.SP.4
6	GR	5	2	7.RP.1
7	MC	C	2	7.SP.1
8	MC	A	2	7.RP.2.c
9	GR	1/4	1	7.SP.8.a
10	GR	1.15	1	7.NS.3
11	MC	C	1	7.EE.1
12	MC	D	2	7.EE.4.b
13	MC	B	2	7.RP.2.c
14	MC	D	1	7.EE.3
15	GR	20	2	7.G.5

Calculator Active

Item Number	Type	Key	DOK*	Standard
16	MC	D	2	7.SP.3.a
17	MC	B	2	7.NS.3
18	MC	D	2	7.RP.2.a
19	MC	B	2	7.EE.3
20	MC	C	3	7.RP.3
21	MC	A	1	7.RP.3
22	GR	168	2	7.G.5
23	MC	A	2	7.SP.8.a
24	GR	37/20	1	7.NS.3
25	MC	B	3	7.G.4
26	MC	D	2	7.SP.4
27	MC	C	2	7.SP.6
28	MC	C	2	7.RP.2.b
29	GR	43	3	7.G.5
30	MC	C	2	7.SP.8.b
31	MC	D	1	7.EE.3
32	MC	A	2	7.RP.2.a
33	MC	B	2	7.G.6
34	MC	C	2	7.RP.3
35	MC	D	1	7.EE.1
36	GR	1/2	3	7.SP.7.a
37	MC	B	2	7.NS.3
38	MC	C	2	7.RP.2.b
39	MC	A	2	7.SP.4

Go to the next page.

Item Number	Type	Key	DOK*	Standard
40	MC	D	1	7.G.6
41	MC	A	2	7.EE.4.a
42	MC	C	2	7.EE.3
43	GR	6	2	7.RP.1
44	MC	A	2	7.RP.1
45	MC	B	1	7.SP.7.a

*DOK:
1 = Recall
2 = Skill/Concept
3 = Strategic Thinking

STOP