

Name

RELEASED FORM

Grade 5

Form S



North Carolina

End-of-Grade Tests—Grade 5

Mathematics—Calculator Active

Mathematics—Calculator Inactive (page 15)

Public Schools of North Carolina

www.ncpublicschools.org

State Board of Education

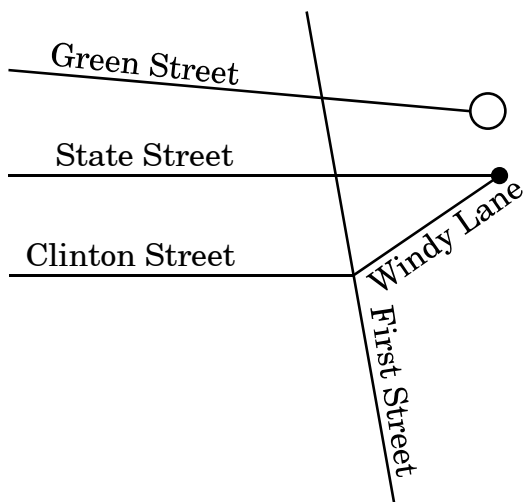
Department of Public Instruction

Division of Accountability Services/North Carolina Testing Program

Raleigh, North Carolina 27699-6314



1. What type of angle is formed by the intersection of Windy Lane and State Street?

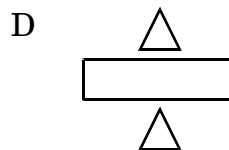
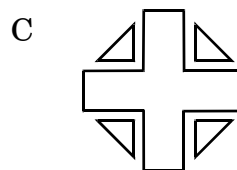
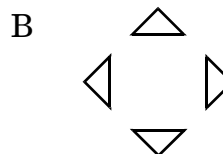
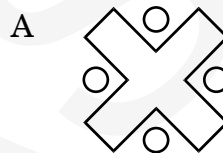


- A acute
 B right
 C obtuse
 D straight
2. Katie bought a gallon of milk. **About** how many liters of milk did she buy?
- A 4 liters
 B 5 liters
 C 6 liters
 D 8 liters

3. Karen traveled 2 km on her bike. **About** how far is this in miles?

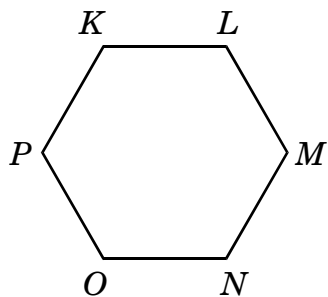
- A 8 miles
 B 4 miles
 C 2.50 miles
 D 1.25 miles

4. Which figure below has line symmetry but **does not** have rotational symmetry?



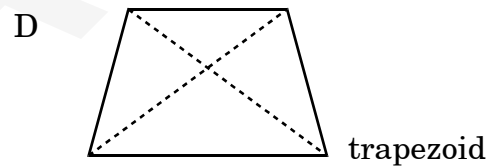
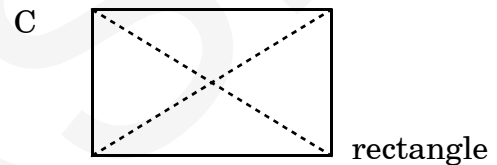
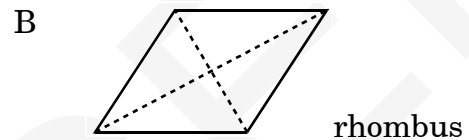
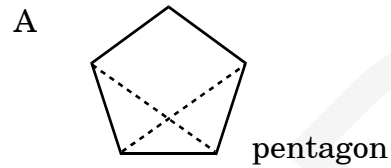


5. In hexagon $KLMNOP$, which side is parallel to side \overline{MN} ?



- A side \overline{OP}
- B side \overline{KP}
- C side \overline{KL}
- D side \overline{LM}
6. Which rectangle below has a perimeter of 34 centimeters and an area of 60 square centimeters?
- A rectangle 1: 6 cm by 10 cm
- B rectangle 2: 5.5 cm by 10.5 cm
- C rectangle 3: 5 cm by 12 cm
- D rectangle 4: 4.5 cm by 12.5 cm

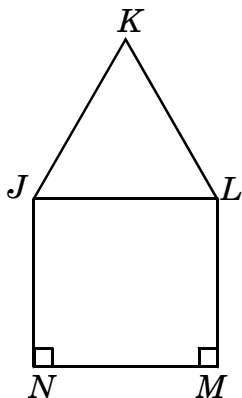
7. Which polygon shows diagonals that are perpendicular to each other?



8. A triangle has two congruent sides. The perimeter of the triangle is 50 centimeters. Only one side of the triangle has a length of 22 centimeters. What is the length of each of the congruent sides?
- A 14 centimeters
- B 22 centimeters
- C 28 centimeters
- D 72 centimeters



9. In the figure below, all of the line segments have the same length.

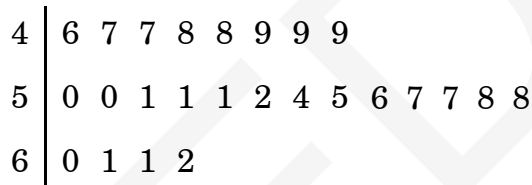


What is the sum of the measures of the interior angles of polygon *JKLMN*?

- A 90°
- B 540°
- C 450°
- D 360°

10. The heights (in inches) of the students in Mr. Bryant's class are shown in the stem-and-leaf plot.

Height of Students
(inches)

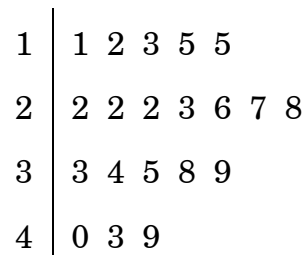


How many students were less than 60 inches tall?

- A 3
- B 8
- C 21
- D 26

11. Students in Mr. Hanover's class ran laps in the gym on Friday. Mr. Hanover made this stem-and-leaf plot of the total laps each student ran.

Total Laps Run

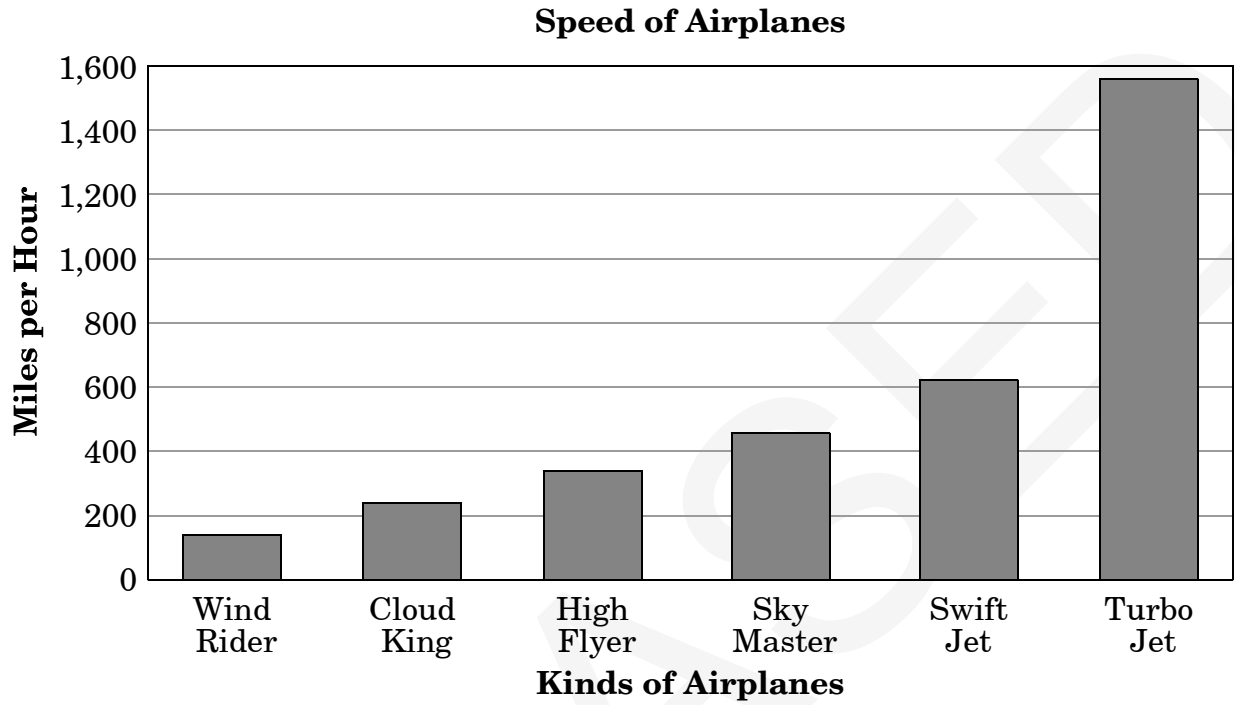


What is the median of the data?

- A 26
- B 26.5
- C 27
- D 27.5



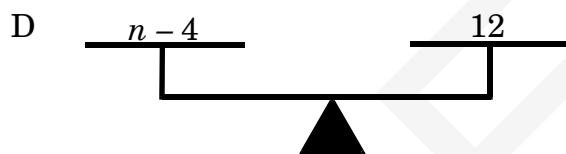
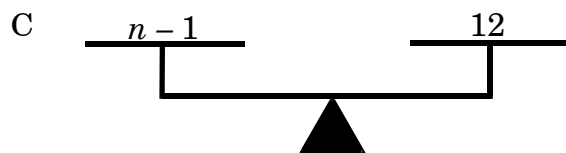
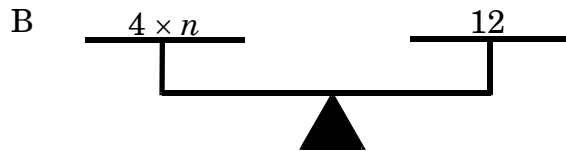
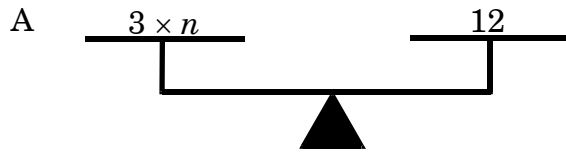
12. Which plane has a speed of **about** 10 miles per minute?



- A Wind Rider
- B High Flyer
- C Swift Jet
- D Turbo Jet



13. Which scale is balanced if $n = 4$?



14. What rule is used to get the y values in this chart?

x	y
0	1
2	7
5	16
8	25

- A multiply x by 2 and add 2
B multiply x by 4 and subtract 1
C multiply x by 3 and subtract 2
D multiply x by 3 and add 1



15. Philip is baking cookies for his friends.

Oatmeal Cookie Recipe

1 cup margarine	2 cups flour
1 cup sugar	$2\frac{1}{2}$ cups oatmeal
1 cup brown sugar	1 teaspoon baking soda
2 eggs	1 teaspoon salt
1 teaspoon vanilla	1 teaspoon baking powder

Makes 30 cookies.

How much oatmeal will Philip need for 120 cookies?

- A 4 cups
- B 5 cups
- C 8 cups
- D 10 cups



16. Mr. Williams bought seven bags of flour. He used $\frac{1}{2}$ of the total amount of flour on Monday and $1\frac{1}{4}$ bags of flour on Tuesday. How much flour does he have left?
- A $2\frac{1}{4}$ bags
- B $3\frac{1}{2}$ bags
- C $4\frac{1}{4}$ bags
- D $4\frac{3}{4}$ bags
17. During their vacation, the Blackmon family visited several historic landmarks. They drove a total of 400 miles during a five-day period. On the first day, they drove 50 miles. For each of the next 4 days, they drove 15 more miles than the day before. How many total miles did they drive during the last two days?
- A 145
- B 155
- C 175
- D 205
18. Stanley, Maury, and Veronica earned \$300 to buy an aquarium for their classroom. Stanley earned \$50. Maury earned \$10 less than twice as much as Stanley. How much money did Veronica earn?
- A \$90
- B \$140
- C \$160
- D \$240



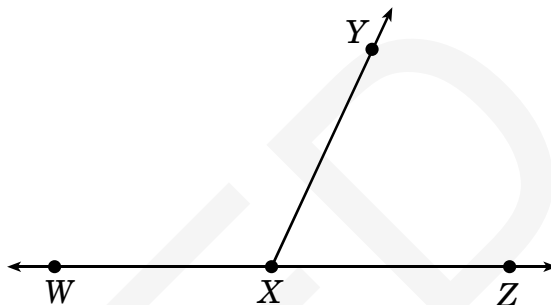
19. When he left the pizza restaurant, Joseph had 25 pizzas to deliver. At his first stop, he delivered five pizzas to a party. At his second stop, he delivered half of the remaining pizzas to a school. At each remaining stop, he delivered one pizza. How many stops did Joseph make to deliver the 25 pizzas?

A 3
B 10
C 12
D 25

20. Morgan's family made a large pizza for lunch on Saturday. Morgan ate $\frac{3}{12}$ of the pizza. Megan ate $\frac{1}{6}$ of the pizza, and Emma ate $\frac{1}{12}$ of the pizza. Their parents ate $\frac{1}{3}$ of the pizza. How much pizza was left?

A $\frac{1}{12}$
B $\frac{1}{6}$
C $\frac{6}{12}$
D $\frac{5}{6}$

21. **About** how many degrees is the measure of $\angle WXY$?



A 20°
B 60°
C 120°
D 160°

22. Joey was looking at a square, a rectangle, and a right triangle. What is the total number of angles for all of the polygons, and how many are right angles?

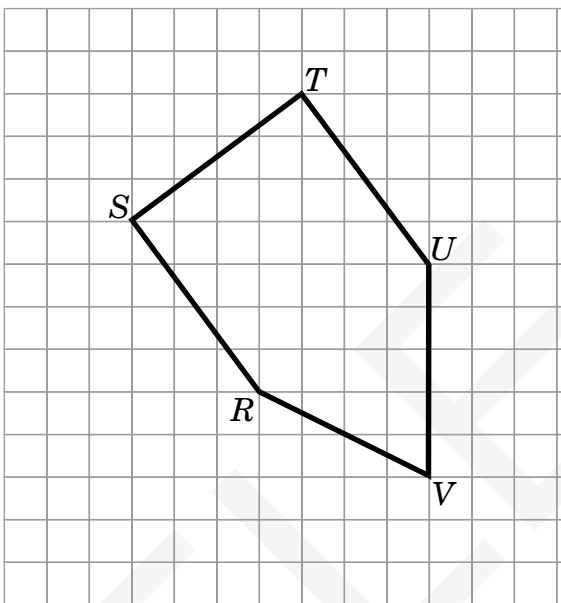
A 11 angles, 8 right angles
B 11 angles, 9 right angles
C 12 angles, 8 right angles
D 12 angles, 9 right angles



23. The Washington Monument is 555 feet tall. Which choice is closest to its height?

- A 1,600 meters
- B 550 meters
- C 180 meters
- D 100 meters

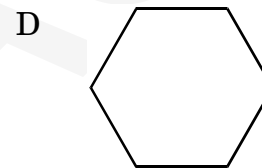
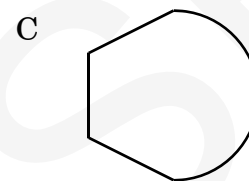
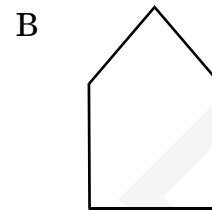
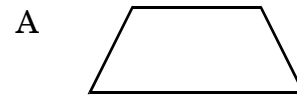
24. Pentagon $RSTUV$ is shown below.



Which two line segments are parallel?

- A \overline{SR} and \overline{TU}
- B \overline{ST} and \overline{RV}
- C \overline{UT} and \overline{TS}
- D \overline{RV} and \overline{UV}

25. Which shape below is a quadrilateral?

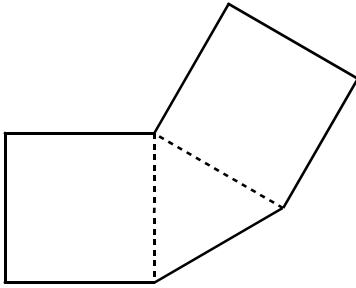


26. Harry measured two angles in a triangle with a protractor. The first angle measured 68° , and the second angle measured 80° . What is the measure of the third angle?

- A 22°
- B 32°
- C 100°
- D 122°



27. The figure below was formed by combining two squares and an equilateral triangle.



What is the total measure of all the interior angles of this figure?

- A $1,080^\circ$
- B 900°
- C 700°
- D 540°

28. Charlie wants to build a fence around his rectangular yard. The yard is 16 feet long and has an area of 128 square feet. How much fencing will Charlie need?

- A 8 feet
- B 24 feet
- C 32 feet
- D 48 feet



29. Which set of data values has a median that is 9 units less than the set's largest value?

A Cafeteria Sales

Days	Number of Lunches
Monday	56
Tuesday	68
Wednesday	74
Thursday	70
Friday	56

B Cafeteria Sales

Days	Number of Lunches
Monday	83
Tuesday	65
Wednesday	80
Thursday	72
Friday	70

C Cafeteria Sales

Days	Number of Lunches
Monday	53
Tuesday	73
Wednesday	63
Thursday	73
Friday	53

D Cafeteria Sales

Days	Number of Lunches
Monday	70
Tuesday	82
Wednesday	73
Thursday	78
Friday	64

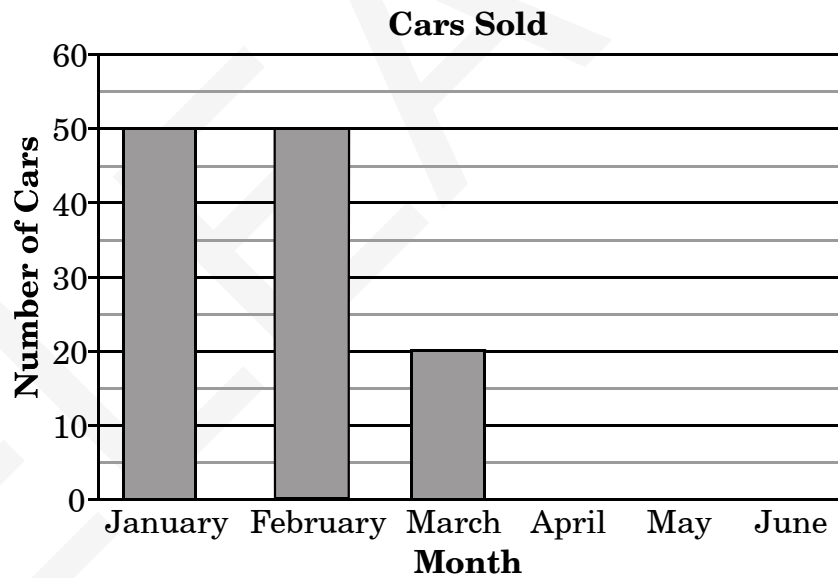


30. A dealership sold 200 cars in a six-month period. The circle graph below displays the distribution of sales by month.

Distribution of Car Sales



The sales manager at the dealership created the bar graph below to show the number of cars sold each month during the six-month period. The bars for April, May, and June have not yet been drawn.



The dealership sold the same number of cars in June as in May. How many cars did it sell in April?

- A 20
- B 25
- C 30
- D 35



31. Which distribution has the greatest range, as shown in its stem-and-leaf plot?

A **Magazine Sales**

5		7 8
6		0 4 6
7		3 7

B **Magazine Sales**

3		9
4		2 3 3 4
5		7 8 8
6		1 2

C **Magazine Sales**

6		4 5 9
7		3 3 6 7
8		1 2

D **Magazine Sales**

4		2
5		0 1 3 8
6		4 8

32. Sam's family is traveling to visit his grandparents. They travel 50 miles in one hour. How many miles will they travel in 6 hours at the same speed?

A 100

B 250

C 300

D 600

33. The fifth-grade students at a school are going on a trip. Of the 96 students, 84 students will ride on buses. The remainder of the students will ride in cars that can hold up to four students each. Which equation can be used to find the number (n) of cars needed?

A $n = (96 - 84) \div 4$

B $n = 96 - (84 \div 4)$

C $n = (96 + 84) \div 4$

D $n = 96 + (84 \div 4)$



34. George weighs twice as much as his little brother Sam. George’s sister Beth weighs five pounds more than Sam. If Beth weighs 42 pounds, how much does George weigh?
- A 94 pounds
 - B 84 pounds
 - C 74 pounds
 - D 37 pounds

35. Angela read the temperature on a thermometer to be 2°C at 8:00 in the morning. After 8:00 the temperature increased 1° during the first hour, 2° during the second hour, 3° during the third hour, and so on until noon. What was the temperature at noon?
- A 10°C
 - B 12°C
 - C 14°C
 - D 15°C

36. Joseph wants to buy a new bicycle that costs \$300.00. When he has enough money in his bank account, he can buy the bike. The ending balances on his last four monthly bank statements are shown below.

Month	Balance
January	\$122.00
February	\$136.00
March	\$150.00
April	\$164.00

If this pattern continues, after how many more months is the earliest he can buy the bicycle?

- A 9 months
- B 10 months
- C 11 months
- D 12 months



**End of Mathematics—
Calculator Active**



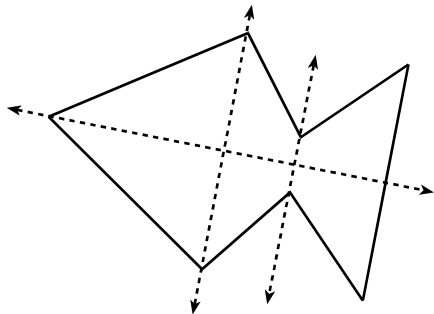
1. How should eight ones, nine thousands, two hundred thousands, four hundreds, and five tens be written as a number?
- A 89,245
B 209,458
C 259,408
D 892,450
2. Mrs. Hart took two packages to the post office. The larger one weighed 6.1 pounds, and the smaller one weighed 2.8 pounds. **About** how much more did the larger package weigh than the smaller one?
- A 3 pounds
B 4 pounds
C 5 pounds
D 9 pounds
3. James bought 5 cups for \$4.98 each. He also bought a large plate for \$9.25. **About** how much did all of the items cost?
- A \$14
B \$18
C \$30
D \$34
4. In which number is 7 in the hundredths place?
- A 1,239.73
B 4,573.14
C 8,946.27
D 6,745.03
5. Jordan and his friends ordered a pepperoni pizza. Jeff ate $\frac{1}{6}$ of the pizza, Darryl ate $\frac{1}{3}$ of it, and Jordan ate $\frac{2}{6}$ of it. How much pizza was left?
- A $\frac{1}{6}$
B $\frac{4}{15}$
C $\frac{1}{3}$
D $\frac{5}{6}$



6. Each hour 17 or 18 planes leave an airport. Each plane can carry 237 passengers. Which is the **most accurate** estimate of the number of passengers who leave each hour if the planes are full?
- A fewer than 3,700
B between 3,700 and 4,000
C between 4,000 and 4,300
D more than 4,300
7. Laura and Betty ran a race. Laura ran faster than Betty. It took Laura 14.053 seconds to complete the race. The difference between the two girls' times was eight-thousandths of a second. How long did it take Betty to complete the race?
- A 14.133 seconds
B 14.061 seconds
C 14.053 seconds
D 14.045 seconds
8. Which value for W makes this statement true?
- $$W \geq 46.679$$
- A 4.6679
B 46.67
C 46.674
D 46.69
9. Paul worked as a library volunteer for $8\frac{1}{4}$ hours. Harry worked for $3\frac{1}{2}$ hours. How much longer did Paul work than Harry?
- A $4\frac{3}{4}$ hours
B $5\frac{1}{4}$ hours
C $5\frac{3}{4}$ hours
D $11\frac{3}{4}$ hours



10. How many of the dashed lines shown in the figure are lines of symmetry?



- A 0
B 1
C 2
D 3
11. Which term correctly describes triangles in which all three sides have different lengths?
- A equilateral
B isosceles
C right
D scalene
12. Which polygon **must** be a regular polygon?
- A rectangle
B trapezoid
C square
D parallelogram

13. Kathy has k doughnuts. She will give all of the doughnuts to her 12 friends. Each friend will get f doughnuts. Which equation is correct?

- A $k \div 12 = f$
B $k \times f = 12$
C $f \div k = 12$
D $f \div 12 = k$

14. Which equation is true about the pattern below?

(1, 2), (2, 4), (3, 6), (4, 8), (x, y), (6, 12)

- A $x = y - 2$
B $y = x + 2$
C $x = 2y$
D $y = 2x$



**End of Mathematics—
Calculator Inactive**

**North Carolina Test of Mathematics
Grade 5 Form S RELEASED Fall 2009
Answer Key**

CALCULATOR ACTIVE



Item Number	Correct Answer	Goal
1	A	2 — Measurement
2	A	2 — Measurement
3	D	2 — Measurement
4	D	3 — Geometry
5	B	3 — Geometry
6	C	3 — Geometry
7	B	3 — Geometry
8	A	3 — Geometry
9	B	3 — Geometry
10	C	4 — Data Analysis and Probability
11	B	4 — Data Analysis and Probability
12	C	4 — Data Analysis and Probability
13	A	5 — Algebra
14	D	5 — Algebra
15	D	5 — Algebra
16	A	1 — Number and Operations
17	D	5 — Algebra
18	C	5 — Algebra
19	C	1 — Number and Operations
20	B	1 — Number and Operations
21	C	2 — Measurement
22	B	2 — Measurement
23	C	2 — Measurement
24	A	3 — Geometry
25	A	3 — Geometry
26	B	3 — Geometry
27	B	3 — Geometry
28	D	3 — Geometry
29	D	4 — Data Analysis and Probability
30	C	4 — Data Analysis and Probability
31	D	4 — Data Analysis and Probability
32	C	5 — Algebra
33	A	5 — Algebra
34	C	5 — Algebra
35	B	5 — Algebra
36	B	5 — Algebra

**North Carolina Test of Mathematics
Grade 5 Form S RELEASED Fall 2009
Answer Key**

CALCULATOR INACTIVE



Item Number	Correct Answer	Goal
1	B	1 — Number and Operations
2	A	1 — Number and Operations
3	D	1 — Number and Operations
4	C	1 — Number and Operations
5	A	1 — Number and Operations
6	C	1 — Number and Operations
7	B	1 — Number and Operations
8	D	1 — Number and Operations
9	A	1 — Number and Operations
10	B	3 — Geometry
11	D	3 — Geometry
12	C	3 — Geometry
13	A	5 — Algebra
14	D	5 — Algebra

**North Carolina Test of Mathematics
Grade 5 Form S RELEASED Fall 2009
Raw to Scale Score Conversion**

Raw Score	Scale Score
0	326
1	326
2	327
3	327
4	328
5	329
6	330
7	330
8	331
9	332
10	333
11	335
12	336
13	337
14	338
15	339
16	341
17	342
18	343
19	344
20	345
21	346
22	347
23	348
24	349
25	350
26	351
27	352
28	352
29	353
30	354
31	355
32	356
33	356
34	357
35	358
36	359
37	360
38	360
39	361
40	362
41	363

**North Carolina Test of Mathematics
Grade 5 Form S RELEASED Fall 2009
Raw to Scale Score Conversion**

42	364
43	365
44	366
45	368
46	369
47	371
48	373
49	375
50	378