

KEY: North Star Assessment Mathematics 6-3

Name: _____

Date: _____

DIRECTIONS:

Read each question and determine the best answer. Fill in the bubble or write the answer in the correct space on your answer sheet. IN THIS SECTION YOU CANNOT USE A CALCULATOR.

1. (1) Solve this problem.

$$\$26.60 - \$14.25 = \underline{\$12.35}$$

2. (2) (NSA) Khadja walks $\frac{1}{10}$ of a mile to school. Maniyah walks $\frac{2}{5}$ of a mile to school. How much more does Maniyah walk than Khadja?

- A) $\frac{1}{5}$
- B) $\frac{3}{15}$
- C) $\frac{3}{10}$
- D) $\frac{5}{3}$

3. (2) $211 \times 20 =$

- A) 4220
- B) 4210
- C) 6200
- D) 4100
- E) None of these

4. (3) $2769 \div 13 =$

- A) 203
- B) 210
- C) 231
- D) 213
- E) None of these

5. (4) Jamil and Jamal need $5\frac{1}{2}$ cups of sugar to bake cookies. They already have found $3\frac{3}{4}$ cups. How many more cups of sugar do they need?

- A) $2\frac{1}{4}$ cups
- B) $1\frac{3}{4}$ cups
- C) $1\frac{1}{4}$ cups
- D) $9\frac{1}{4}$ cups
- E) None of these

6. (5) Jamil and Jamal need 20.5 grams of chocolate in order to bake a dozen cookies. How many grams of chocolate will the boys need in order to bake 5 dozen cookies?

- A) 100 grams
- B) 242 grams
- C) 102.5 grams
- D) 31 grams
- E) None of these

7. (6) Jamil and Jamal sold their cookies at a bake sale for \$1.50 each. They made \$151.50 during the bake sale. If they spent \$59.61 on ingredients, how much money did Jamil and Jamal have after the bake sale?

- A) \$91.89
- B) \$98.19
- C) \$101.89
- D) \$98.11
- E) None of these

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8. (5) Fernando has a job at the local car wash. Fernando earns \$15 each time he washes a car. How many cars does he need to wash to earn \$180?

- A) 5
- B) 12**
- C) 13
- D) 300

9. After a year on the job, Fernando was rewarded for his hard work with a pay raise. Fernando now earns \$20 for each car that he washes. How many fewer cars does he have to wash to earn \$180? (Refer to question#8.)

- A) 21
- B) 3**
- C) 5
- D) 12

10. (7) Which of these is the best estimate of the answer to $63,221 \div 28$?

- A) 20
- B) 200
- C) 2,000**
- D) 20,000

11. (8) Brandon threw a football as far as he could three times. His first time the ball traveled 35.5 yards. The second attempt went 36.7 yards and the third attempt went 39.1 yards. About how far did all three of his throws travel?

- A) Between 109 and 110 yards
- B) Between 110 and 111 yards
- C) Between 111 and 112 yards**
- D) Between 112 and 113 yards

12. (9) A grown male lion weighs about 12 times as much as a newborn male lion. If a newborn male lion weighs 20 pounds, about how much does a grown male lion weigh?

- A) 24 pounds
- B) 32 pounds
- C) 240 pounds**
- D) 320 pounds

13. (9) Boston College's cafeteria is about 5 times as wide as North Star's cafeteria. If North Star's cafeteria is 70.5 feet wide, about how wide is Boston College's cafeteria?

- A) 330 feet
- B) 350 feet**
- C) 360 feet
- D) 370 feet

14. (NSA) $2\frac{2}{5} + 3\frac{1}{6} =$

- A) $6\frac{17}{20}$
- B) $6\frac{7}{20}$
- C) $5\frac{27}{30}$
- D) $5\frac{17}{30}$**

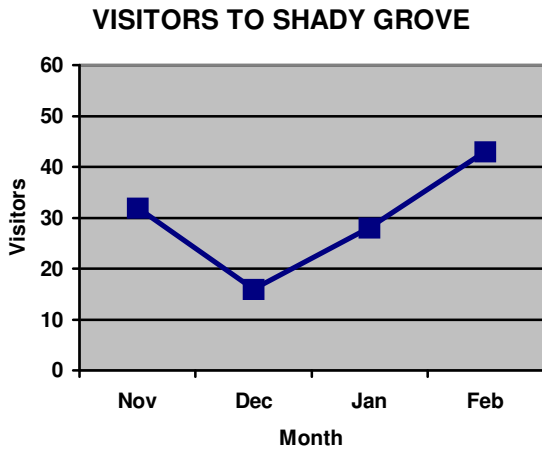
STOP 

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15. (11) This graph shows the number of visitors to the Shady Grove park in the winter months.



ABOUT how many visitors came to the park in February?

- A) 32
- B) 28
- C) 42**
- D) 15

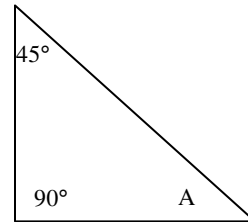
16. (14) Ms. Cromartie has 21 students and gave them each 5 minutes of detention. Which operation should he use to determine the total number of detention minutes the class has received?

- A) Addition
- B) Subtraction
- C) Multiplication**
- D) Division

17. (15) In the computer lab 18 computers are working and 6 computers are not. What percent of the computers are not working?

- A) 33%
- B) 25%**
- C) 30%
- D) 40%

18. (16)



Sum of angles of a triangle = 180°

What is the measure of angle A?

- A) 35
- B) 45**
- C) 60
- D) 90

19. (18) North Star's computer lab has 44 computers. $\frac{3}{4}$ of the computers are working. How many computers in the lab are working?

- E) 30
- F) 33**
- G) 34
- H) 36

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20. (18) Your June utility bill was \$200.00. If $\frac{1}{10}$ of this bill was for lighting and small appliances, how much did you spend on lighting and small appliances in June?

- A) \$200.00
- B) \$20.00**
- C) \$2,000.00
- D) none of the above

21. (NSA) Sixteen students brought in their homework one day. The ratio of those who did their homework to those who did not was 2 to 1. How many students did not bring in their homework?

- A) 32
- B) 6
- C) 24
- D) 8**

22. (19) Jennifer drove 36 miles in an hour. At this rate, how far would she travel in $2\frac{1}{4}$ hours?

- A) 72 miles
- B) 80 miles
- C) 81 miles**
- D) 90 miles

23. (20) The chart below shows how much four North Star students spent on shoes:

Person:	Amount spent:
Terry	\$35.00
Lovely	?
Steven	\$24.00
Camille	\$30.00

If the students spent \$125.00 in total, how much did Lovely spend on her shoes?

- A) \$46
- B) \$36**
- C) \$26
- D) \$63

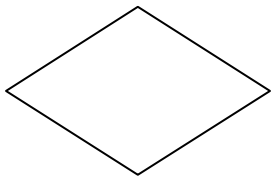
24. (21) North Star's computer room is 24 feet wide and 26 feet long. If Mr. V wants to lay down tiles that are 1 foot square, how many tiles will he need to cover the entire floor?

- A) 524
- B) 604
- C) 620
- D) 624**

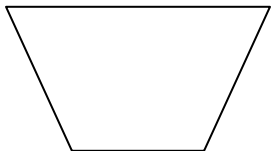
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25. (22) Which of these figures is a trapezoid?

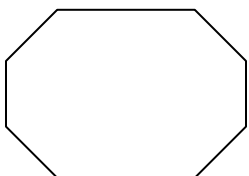
A)



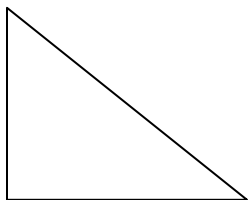
B)



C)



D)



26. (24) The table shows the results of a weightlifting contest.

Weight Lifter	Weight Lifted
Aaron	$50 \frac{1}{2}$ pounds
Barbie	$52 \frac{3}{4}$ pounds
Courtney	$51 \frac{4}{5}$ pounds
Daria	$52 \frac{1}{3}$ pounds

Which list shows the weightlifters from GREATEST weight lifted to LEAST weight lifted?

A) Aaron, Courtney, Daria, Barbie

B) Barbie, Courtney, Daria, Aaron

C) Daria, Barbie, Courtney, Aaron

D) Barbie, Daria, Courtney, Aaron

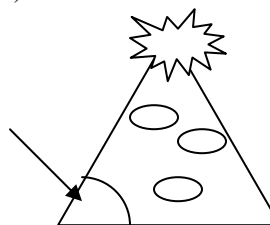
27. (24) This chart shows the amount of weight 4 containers can hold.

Container:	Amount:
A	5.89 grams
B	63.6 milligrams
C	5.83 grams
D	61.2 milligrams

Which container holds the **least** amount of weight?

A, B, C, or D

28. (25)



The measure of the angle formed at the corner of the hat appears to be ABOUT

A) 15 degrees

B) 60 degrees

C) 100 degrees

D) 120 degrees

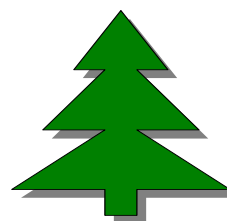
29. (25) What kind of angle is formed at the top of the tree?

A) Straight angle

B) Obtuse angle

C) Acute angle

D) Right angle

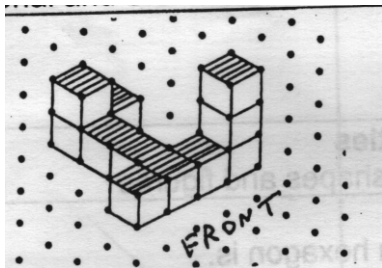


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30. (19) If a machine can fill 4 bottles in 6 seconds, how many bottles can it fill in 18 seconds?

- A) 24
- B) 12**
- C) 8
- D) 7

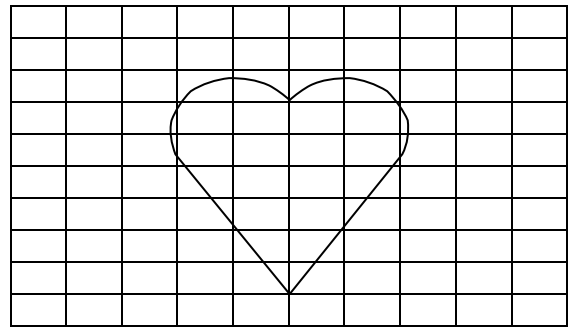
31. (28)



Which figure BEST represents what the ROOFTOP of this building would look like if you were looking at it from directly above in the sky?

- A)
- B)**
- C)
- D)

32. (30) John traced a heart on the grid below. Each box is equal to one square unit.



Which of these answers is the closest estimate of the area of the heart?

- A) 15 square units**
- B) 19 square units
- C) 25 square units
- D) 30 square units

33. (31) Use your ruler to measure the lengths of the sides of the shape in centimeters. Label the length of each side. What is PERIMETER of the shape in centimeters?



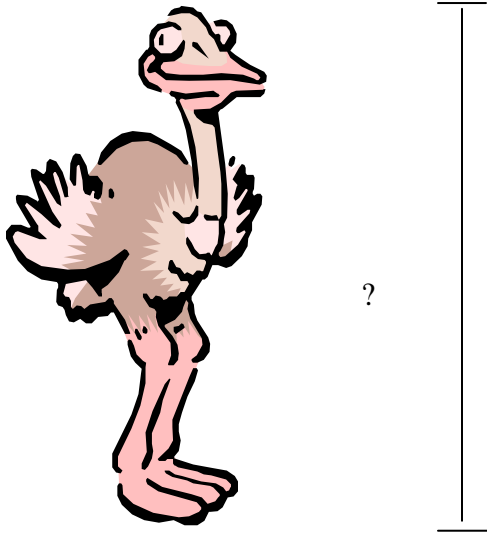
7 cm long and 5 cm high. $7+7+5+5=24$ cm

Perimeter = 24 cm

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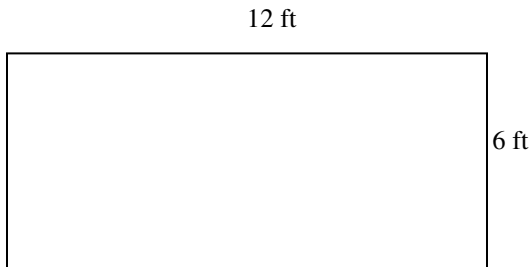
34. (31) Use the inch side of your ruler to help you solve this problem.

Tatiana found the following sticker of an ostrich lying on the ground outside the Boston College room. What is the length in inches of the ostrich sticker shown below?



- A) 2 inches
- B) 2½ inches
- C) 2¾ inches
- D) 3 inches

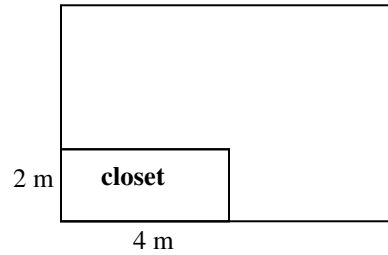
35. (NSA) The blueprint for a room is shown in the picture.



What is the area of the room?

- A) 72 meters²
- B) 18 meters²
- C) 36 meters²
- D) 60 meters²

36. (39) The blueprint for a room is shown in the picture.



The area of the closet is 8 square meters. What is a REASONABLE area of the entire room, including the closet?

- A) 36 meters²
- B) 48 meters²
- C) 54 meters²
- D) 66 meters²

Use the centimeter side of your ruler to answer this question:

37. (39) In real life, the snail pictured below has a length of 15 centimeters from mouth to tail. Given that information, in real life the duck pictured below (from beak to tail feather), measures ABOUT:



- A) 15 cm.
- B) 30 cm.
- C) 45 cm.
- D) 50 cm

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38. (40-NSA) Farmer John gets paid \$.72 per pound for the first 200 pounds of raisins he brings to the market. For additional pounds, he gets \$.63 per pound.

How much money would Farmer John get for 260 pounds of raisins?

$$200 \times .72 = 144$$

$$60 \times .63 = 37.8$$

$$144 + 37.8 = \underline{\$181.80}$$

39. (40) North Star had a bake sale and 145 people came. Each person bought three cookies. Each cookie cost \$0.25.

In the space below, use words or numbers to find the total value (amount of money) that North Star raised from their bake sale.

$$145 \times 3 = 435$$

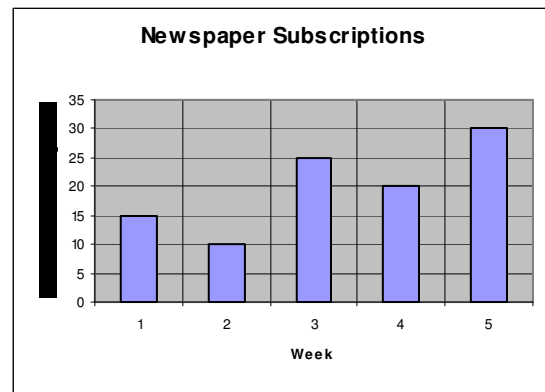
$$435 \times .25 = \$108.75$$

$$\underline{\$ 108.75}$$

40. (41) The table shows the number of people who purchased newspaper subscriptions over a five-week period.

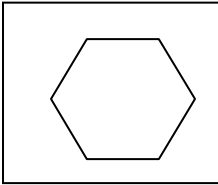
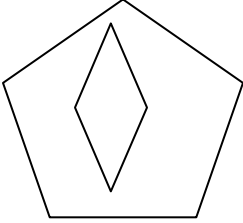
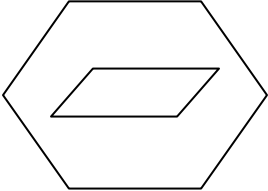
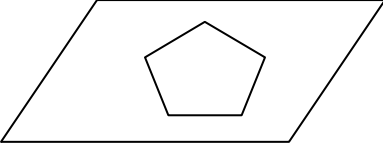
Week	Subscriptions
1	15
2	10
3	25
4	20
5	30

Use the information in the chart to draw a bar graph showing the number of subscriptions per month. Be sure to title and label your graph.

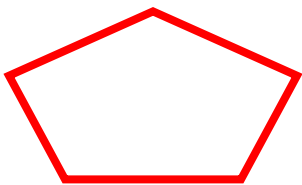


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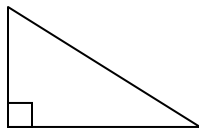
41. (42) Which of the following is a parallelogram inside of a hexagon?

- A) 
- B) 
- C) 
- D) 

42. (42) Draw a pentagon:



43. (NSA) This triangle most resembles which kind of triangle?



- A) Isosceles
- B) Right
- C) Equilateral
- D) Obtuse

STOP 

SECTION 3:
Mathematics

Joe collects baseball cards. He needs to make a poster of different baseball cards as a project for art class. For this project you will need to:

- Organize data
- Calculate costs

ACTIVITY 1: ORGANIZE FIRST!

These are the packs that Joe bought:

- **Topps:** 13 packs gave Joe 130 cards. The cost is \$1.59 per pack.
- **Score:** 15 packs gave Joe 150 cards. The cost is \$1.79 per pack.
- **Donruss:** 10 packs gave Joe 200 cards. The cost is \$2.05 per pack.
- **Upper Deck:** 18 packs gave Joe 144 cards. The cost is \$5.50 per pack.

44) Organize this baseball card information into a table. For each baseball card company include the following:

- Cost of one baseball card pack
- Number of baseball packs bought
- Number of baseball cards for each baseball card company

Draw your table in the space below. You must give your table a title and label each column:

Baseball cards

<u>Company</u>	<u>\$ of one pack</u>	<u># of packs</u>	<u># of cards</u>
<u>Topps</u>	<u>\$ 1.59</u>	<u>13</u>	<u>130</u>
<u>Score</u>	<u>\$ 1.79</u>	<u>15</u>	<u>150</u>
<u>Donruss</u>	<u>\$ 2.05</u>	<u>10</u>	<u>200</u>
<u>Upper Deck</u>	<u>\$ 5.50</u>	<u>18</u>	<u>144</u>

ACTIVITY 2: CALCULATE!

45) Explain how to find the total amount of money spent on the Topps baseball card packs.

Multiply the cost per pack (\$ 1.59) by the number of packs bought (13).

46) Use your plan from Number 44 to find the **total amount of money** spent on each baseball card company.

- **Topps:** Total Cost: \$ 20.67
- **Score:** Total Cost: \$ 26.85
- **Donruss:** Total Cost: \$ 20.50
- **Upper Deck:** Total Cost: \$ 99.00

ACTIVITY 3: MAKE A PLAN

Joe needs glue to stick the baseball cards onto the poster. His poster will be 6 feet by 12 feet. Glue sticks cost \$1.50 for an amount that will cover 2 square feet.

47) Explain a strategy for how many glue sticks Joe will need to complete his entire poster.

Find out how many 2 x 2 squares will fit into the 6 x 12 area.

Or divide the total area (6 x 12) by the area of one square (2 x 2).

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- 48) Use your strategy to find the total number of glue sticks Joe will need to complete his entire poster. Show your work in the space below.

$$\begin{array}{r} \underline{6 \times 12 = 72} \\ \underline{2 \times 2 = 4} \end{array} \qquad \underline{72 \div 4 = 18}$$

Total number of glue sticks needed: 18

- 49) Find the **total cost** for all of the glue sticks. Show your work in the space below.

$$\underline{\$ 1.50 \times 18 = 27.00}$$

Total cost of glue sticks: \$ 27.00

ACTIVITY 4: THINK BACK

- 50) Fred, Joe's classmate, made a different poster that was 12 feet by 24 feet. He thinks that for his poster he will need to use 2 times as many glue sticks as Joe's poster. Explain why Fred is wrong.

Fred will use 4 times as many glue sticks. This is because when you divide the area of a 6 x 12 square feet (72 sq. feet) by the area of a 12 x 24 square feet (288 sq. feet) the answer is 4, so Fred will need 4 times as many glue sticks.

- 51) Explain how a change in the cost of glue sticks would affect the amount of money Joe will spend on his poster.

If the glue sticks cost more, the project will cost more, and if glue sticks cost less, the project will cost less.
