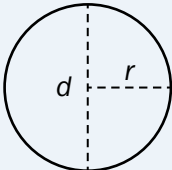


Grade 7 Math Formula Sheet

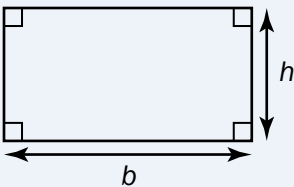
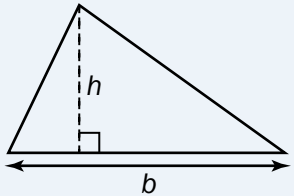
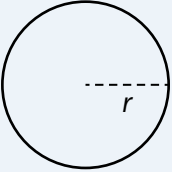
Geometry

Perimeter: the distance around a polygon

Circumference: the distance around a circle

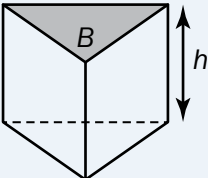
Circle		$C = 2\pi r$ or $C = \pi d$ $\pi \approx 3.14$
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Area: the two-dimensional space inside of a plane figure

Rectangle		$A = bh$
Triangle		$A = \frac{1}{2}bh$
Circle		$A = \pi r^2$ $\pi \approx 3.14$

Surface Area: the sum of the areas of the flat surfaces (called faces) of a three-dimensional figure

Volume: the amount of space inside of a three-dimensional figure

Right Prism		$V = Bh$ $B = \text{area of the base}$
-------------	---	---

Statistics

Mean (average): the sum of all the values in a data set divided by the number of values

Interquartile Range (IQR): the difference between the upper quartile (Q_3) and lower quartile (Q_1) of a data set

Cut along the dotted line.

Section 1, Part A

You may not use a calculator on this part of the test.

1. Which number is equivalent to $\frac{-3}{8}$?

- A. $2.\overline{6}$
- B. 0.375
- C. -0.375
- D. $-2.\overline{6}$

2. A company's stock begins the week with a price of \$43.85 per share. The price changes by \$2.70 each day for 2 days. Then the price changes by $-\$1.10$ each day for 2 days. On the last day, the price changes by $-\$4.45$.

What is the price per share of the company's stock after those five days?

- A. \$42.60
- B. \$43.70
- C. \$45.10
- D. \$55.90

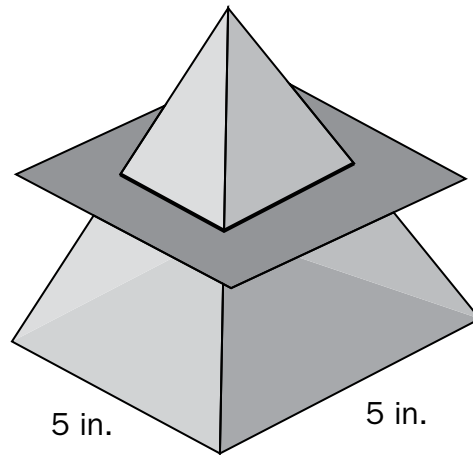
3. What value of x makes this equation true?

$$\frac{6x}{-4} = 6\left(\frac{-1}{2}\right)$$

- A. -3
- B. -2
- C. 2
- D. 3

4. Which of the following describes the most representative sample for a survey about how students are going to vote for the candidates for class president at Pablo's school?
- A. the residents of every third house in the school district
 - B. every third person that enters Pablo's science class
 - C. every third person at the school football game
 - D. every third person on the alphabetical list of all of the students at Pablo's school
5. At 3 PM, the outside temperature was 4°F. The temperature then fell steadily by 2°F every hour for the next four hours. What was the temperature at 7 PM?
- A. 8°F
 - B. 4°F
 - C. -2°F
 - D. -4°F
6. How is the difference $\frac{14}{15} - \frac{5}{9}$ written as a decimal?
- A. $0.\overline{37}$
 - B. $0.\overline{6}$
 - C. 1.5
 - D. 2.6

7. What shape is formed by the intersection of the right square pyramid shown and a plane parallel to its base?



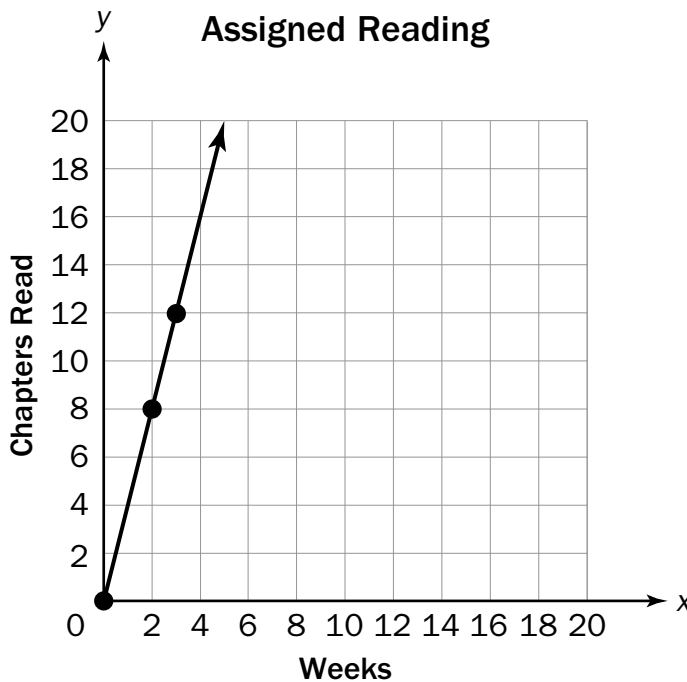
- A. a triangle
B. a square
C. a rectangle that is not a square
D. a parallelogram that is not a rectangle
8. Because of the drought, the water in the reservoir was at a height of -11 inches compared to its normal level. It started raining again, and the water level rose by $\frac{1}{2}$ inch each month for 7 months before dropping by $2\frac{1}{4}$ inches each month for the 3 summer months. What was the height of the water in the reservoir compared to its normal level at the end of the 10 months?
- A. $-1\frac{1}{4}$ in.
B. $-10\frac{1}{4}$ in.
C. $-14\frac{1}{4}$ in.
D. $-21\frac{1}{4}$ in.

STOP

Section 1, Part B

You may use a calculator on this part of the test.

9. Students in Ms. Joshi's English class are assigned chapters of a book to read each week. The graph shows that the number of chapters assigned based on the number of weeks is proportional.



What does the point (1, 4) represent?

- A. Four students are each assigned one chapter.
 - B. Only one student is assigned four chapters.
 - C. All students are assigned one chapter every four weeks.
 - D. All students are assigned four chapters each week.
10. Liam's dog, Lucy, weighs 25.6 pounds. She weighed 11.7 pounds when Liam first adopted her. Which equation can be used to determine how much weight Lucy has gained since she was adopted?
- A. $x - 11.7 = 25.6$
 - B. $11.7x = 25.6$
 - C. $\frac{25.6}{x} = 11.7$
 - D. $x + 11.7 = 25.6$

Go On

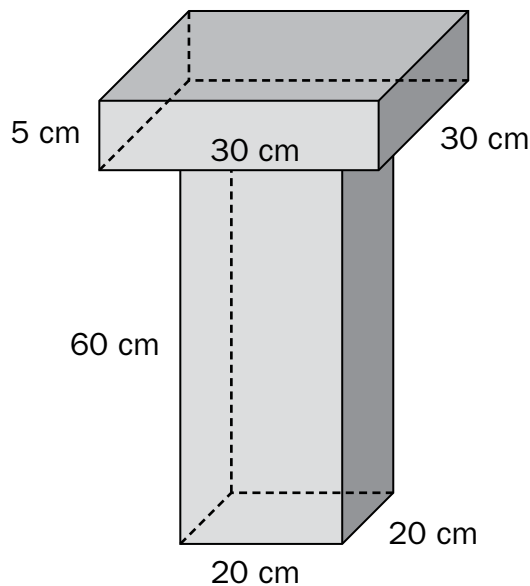
11. Point C is located 8 inches from point A and 6 inches from point B . Points A and B are 2 inches apart. Which statement is true?

- A. The points cannot be connected to form a triangle.
- B. The points can be connected to form exactly one triangle.
- C. The points can be connected to form exactly two triangles.
- D. The points can be connected to form more than two triangles.

12. There are 64 crayons in 4 boxes, and each box contains the same number of crayons. If c represents the total crayons in b boxes, which equation can be used to model the situation?

- A. $b = 16c$
- B. $b = \frac{16}{c}$
- C. $c = \frac{16}{b}$
- D. $c = 16b$

13. Lacey is building a plant stand. To understand how much wood stain to buy, she needs to determine the surface area of all of the outside faces of the stand. She will not have to apply stain to the area where the two pieces of wood meet or to the bottom of the stand. What is the surface area of the plant stand that Lacey will stain?



- A. $6,200 \text{ cm}^2$
- B. $6,800 \text{ cm}^2$
- C. $7,200 \text{ cm}^2$
- D. $7,600 \text{ cm}^2$

14. The perimeter of a tennis court is 64 meters. The length of the court is 23.77 meters. What is the width, in meters, w , of the tennis court?

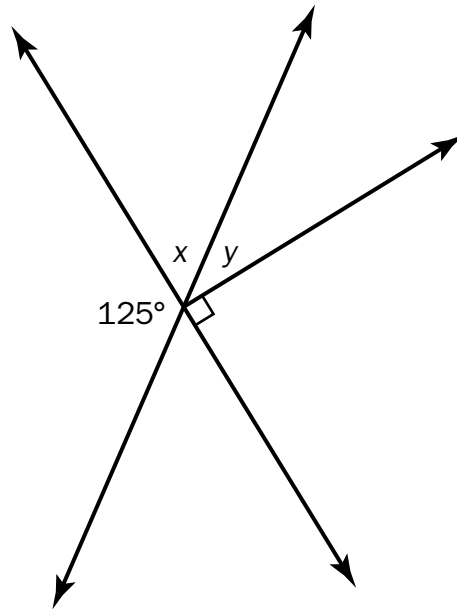
- A. 2.69 m
- B. 8.23 m
- C. 20.12 m
- D. 40.23 m

15. Aiden rolls a number cube with sides labeled 1 through 6 and flips a coin. What is the probability that he will roll a number 5 or higher and the coin will land on heads?

- A. $\frac{1}{6}$
- B. $\frac{1}{3}$
- C. $\frac{2}{3}$
- D. $\frac{5}{6}$

Go On

16. What is the measure of $\angle y$?



- A. 25°
- B. 35°
- C. 45°
- D. 55°

17. The Greenville Park rangers want to know the number of visitors who arrive by bus and the number who arrive by car. Park officials record the method of transportation for a random selection of park visitors over two weeks.

Method of Transportation

Week	Bus	Car
1	185	38
2	174	43

If 500 people visit the park in Week 3, which is the best estimate of the number of people who will arrive by car?

- A. 40
- B. 90
- C. 130
- D. 200

18. Diep reads $\frac{1}{6}$ of a book in $\frac{1}{4}$ of an hour. At this rate, what fraction of the book will he read in 1 hour?

- A. $\frac{1}{24}$
- B. $\frac{5}{12}$
- C. $\frac{2}{3}$
- D. $\frac{6}{4}$

19. A store is having a 20% off sale. Michael says that he can find the sale price of an item that has a regular price of p by evaluating the expression $0.8p$. Susan says that she can find the sale price for the same item by evaluating the expression $p - 0.2p$. Who is correct?

- A. Neither is correct.
- B. Only Michael is correct.
- C. Only Susan is correct.
- D. Both are correct.

20. Cleo is 38 years old, which is twice as old as Lara will be in 7 years.

Part A: In how many years will Lara be as old as Cleo is now?

- A. 12 years
- B. 19 years
- C. 26 years
- D. 33 years

Part B: How old will Cleo be when Lara is as old as Cleo is now?

- A. 57 years old
- B. 64 years old
- C. 71 years old
- D. 78 years old

Go On

21. Part A: Simplify the expression using multiplication and division.

Show your work and write your answer in the space provided.

$$-\frac{5}{8} \left(-\frac{4}{5} \div 2 \right)$$

Part B: Simplify the expression using multiplication and division.

Show your work and write your answer in the space provided.

$$4 \left(-\frac{5}{6} \div \frac{2}{3} \right)$$

STOP

Section 2

You may use a calculator on this part of the test.

22. The profit that Abby earns selling jars of jam at a farmer's market can be represented by the function $8j - 50$, where j represents the number of jars of jam she sells. If her friend Eduardo helps her, she doubles her profits. Which expression can Abby use to determine how much profit she earns with Eduardo's help?

- A. $4(4j - 25)$
- B. $2(8j - 100)$
- C. $4(2j - 100)$
- D. $2(4j - 25)$

23. The table shows the heights, in centimeters, of members of the top two basketball teams at the tournament.

Top Two Basketball Teams

Basketball Team	Heights (centimeters)
Blue	162.6, 165.1, 172.2, 177.8, 177.2, 174.5, 168.1
Green	176.8, 182.9, 185.4, 183.2, 180.3, 179.3, 186.6

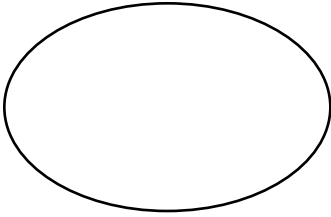
Which statement is correct?

- A. The median height for the blue team is 5.4 centimeters less than the median height for the green team.
- B. The shortest person on the green team is taller than the tallest person on the blue team.
- C. On average, the members of the green team are shorter than the members of the blue team.
- D. There is greater variability in the heights of the players on the blue team than on the green team.

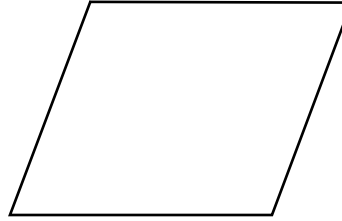
Go On

24. What shape is formed by the intersection of a sphere and a plane?

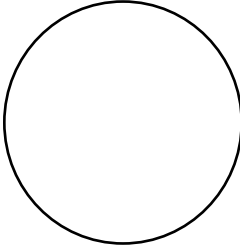
A.



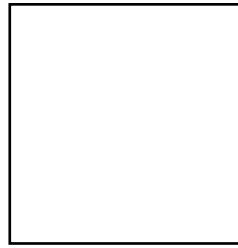
B.



C.



D.



25. Jamal is buying tiles to make a 12 foot by $7\frac{1}{2}$ foot patio in his backyard. He can use 6-inch square tiles, which cost \$6.99 for a box of 50 tiles, or 18-inch square tiles, which cost \$12.99 for a box of 10. He chooses the option with the lower cost. How much does Jamal pay for his tile, and what size tile does he use?

- A. \$50.33, 6-inch tiles
- B. \$51.96, 18-inch tiles
- C. \$55.92, 6-inch tiles
- D. \$58.46, 18-inch tiles

26. Sameer has 6 markers in the bottom of his backpack. 1 is red, 2 are blue, and 3 are green. He calculates the theoretical probability of choosing a blue marker at random. Then he tests this probability by choosing a marker without looking, noting the color, and putting the marker back into the backpack. Sameer gets a blue marker in 8 out of 18 trials. How does Sameer's experimental probability compare to the theoretical probability, and what is the reason for any difference between them?

- A. The theoretical probability is less than the experimental probability. If Sameer did more trials of the experiment, the two values likely would be closer.
- B. The theoretical probability is greater than the experimental probability. If Sameer did fewer trials of the experiment, the two values likely would be closer.
- C. The theoretical probability is the same as the experimental probability. Sameer's calculation of the experimental probability was correct.
- D. The theoretical probability is less than the experimental probability. Sameer did too many trials of the experiment.

27. Allan wants to wrap a piece of colorful tape around a cylindrical vase that has a radius of 3.5 inches. What is the minimum length of tape that he will need? Use 3.14 for π .
- A. 6.64 inches
 - B. 10.99 inches
 - C. 21.98 inches
 - D. 38.47 inches
28. Yuan's lawnmower uses $\frac{1}{4}$ of a gallon of gas to mow $\frac{1}{3}$ of the field. How much gasoline will her lawnmower use to mow the entire field?
- A. $\frac{1}{12}$ gallon
 - B. $\frac{7}{12}$ gallon
 - C. $\frac{3}{4}$ gallon
 - D. $1\frac{1}{3}$ gallons
29. Kylie is buying a new computer. She has a coupon that will reduce the price of any computer in the store by \$50. The store charges 5% sales tax on the reduced price. Which inequality represents all of the possible original prices, p , of computers that will cost less than \$800 after the coupon and tax are applied?
- A. $1.05p < 747.5$
 - B. $1.05p < 750$
 - C. $1.05p < 850$
 - D. $1.05p < 852.5$

30. Khalilah is purchasing supplies for her restaurant. The table shows the number of avocados, x , and the cost, in dollars, y , for that number of avocados.

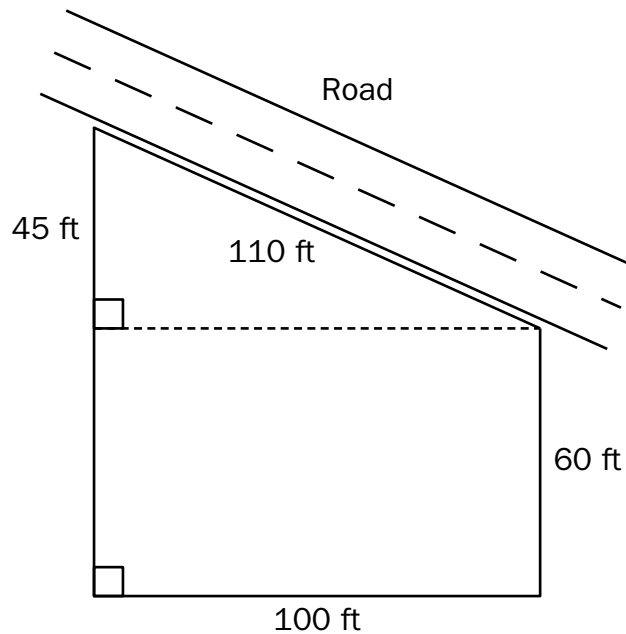
Cost of Avocados

Number of Avocados, x	Cost, in dollars, y
12	\$11.64
15	\$14.55
21	\$20.37

What is the unit rate that Khalilah pays for avocados, in dollars per avocado?

- A. \$0.36
 - B. \$0.45
 - C. \$0.97
 - D. \$1.03
31. The probability that Rachel will win a raffle is 0.1. Which of the following statements is true?
- A. Rachel will definitely not win the raffle.
 - B. Rachel is very likely to win the raffle.
 - C. Rachel is not very likely to win the raffle.
 - D. Rachel will definitely win the raffle.
32. Maddie has three boxes. The first box weighs 22 pounds. The second box weighs 20% more than the first box. The third box weighs 10% less than the second box. How much does the third box weigh?
- A. 15.84 pounds
 - B. 19.36 pounds
 - C. 23.76 pounds
 - D. 29.04 pounds
33. The balance in Dan's bank account is $-\$12.50$. Then he deposits $\$12.50$ into his account. What is the new balance?
- A. $-\$25.00$
 - B. $\$0.00$
 - C. $\$12.50$
 - D. $\$25.00$

34. Patrick recently purchased a piece of property where he can build a house. The property is next to a road, so the property can be represented by a rectangle and a right triangle as shown.



Before Patrick can build his house, he needs to know the total area of the property. What is the area of the property?

- A. 8,250 ft²
 - B. 8,475 ft²
 - C. 10,500 ft²
 - D. 10,950 ft²
35. Abel is an architect designing a new art museum. He wants to include a circular gallery with a circumference of 52 meters. He calculates that the area of the gallery's floor will be about 861 square meters. Is Abel correct?
- A. Yes, Abel is correct.
 - B. No, the area will be about 215 square meters.
 - C. No, the area will be about 2,123 square meters.
 - D. No, the area will be about 8,491 square meters.

Go On

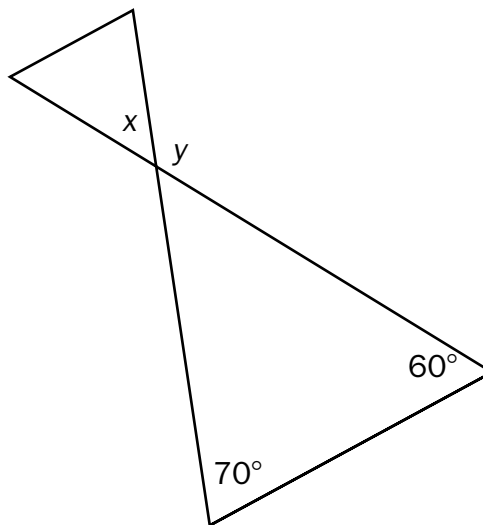
36. Raul has a container of marbles. He draws a marble from the container 200 times, returning the marble to the container each time. The table shows the results.

Results

Color	Number Drawn
Red	132
Blue	68

If Raul were to draw a marble 300 more times, how many times would he draw a blue marble?

- A. exactly 102 times
 - B. exactly 198 times
 - C. approximately 100 times
 - D. approximately 200 times
37. Aliyah draws a sketch for a poster she's designing. To draw the design using her computer program, Aliyah needs to know the measure of the angles in the shape. What is the measure of $\angle y$?



- A. 50°
- B. 70°
- C. 120°
- D. 130°

38. Eva runs a comic book store. She buys collectible figures from the manufacturer for \$6.68 and marks up the price by 25% to sell to her customers. A customer buys a collectible figure using a 10% off coupon, which is applied before an 8% sales tax is added. What is the total the customer will pay for the collectible figure?

- A. \$8.12
- B. \$8.22
- C. \$9.55
- D. \$9.92

39. What is the distance between -3 and -12 on a number line?

- A. 4
- B. 9
- C. 15
- D. 36

40. Elona works in market research for a sports drink company. They are testing three new flavors: cherry, lime, and mango. She asks a group of randomly selected individuals to choose their favorite new flavor. Their responses are given in the table.

Favorite New Sports Drink

Flavor	Number of Times Chosen as Favorite
Cherry	156
Lime	257
Mango	87

Which of the following statements is true?

- A. If 200 more people were surveyed, approximately 100 would choose lime as their favorite.
- B. If 200 more people were surveyed, approximately 90 would choose cherry as their favorite.
- C. If 400 more people were surveyed, approximately 170 would choose mango as their favorite.
- D. If 400 more people were surveyed, approximately 260 would choose lime as their favorite.

Go On

41. Which table shows a proportional relationship between x and y ?

x	y
25	35
30	40
40	50

A.

x	y
25	5
30	4
40	3

B.

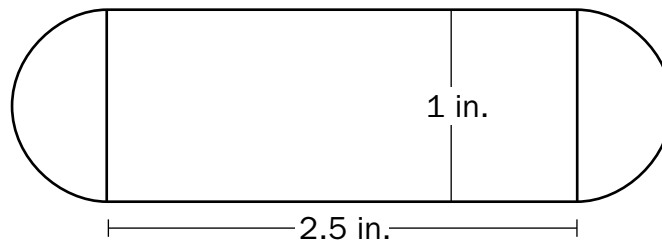
x	y
25	5
30	10
40	20

C.

x	y
25	5
30	6
40	8

D.

42. A park manager is planning to add a fish pond to a state park. The figure below is a scale drawing of the fish pond. Its scale is $\frac{1}{2}$ inch = 15 meters.



Part A: What is the area of the actual fish pond? Use 3.14 for π .

Show your work and write your answer in the space provided.

<p>_____ square meters</p> <hr/> <hr/> <hr/> <hr/>
--

Part B: The city will build a low fence around the entire fish pond. What is the length of the fence? Use 3.14 for π .

Show your work and write your answer in the space provided.

_____ meters

Part C: After the pond is created, a runner jogs 3.5 laps around it. How many meters does the runner jog?

Show your work and write your answer in the space provided.

_____ meters

Part D: A duck swims in a straight line from one end of the pond to the other between the points on the edge of the pond that are farthest apart. How far does the duck swim?

Show your work and write your answer in the space provided.

_____ meters

Go On

43. Fiona rolls a pair of six-sided cubes, each numbered from 1 – 6, at the same time.

Part A: What are all of the possible outcomes of rolling the pair of cubes? Write your answer in an organized list, a table, or a tree diagram.

Show your work and write your answer in the space provided.

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Part B: What is the probability that Fiona will roll double sixes?

Write your answer in the space provided.

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STOP

Ready® Georgia Milestones Edition Mathematics Assessments, Level 7
Answer Form

Name _____

Teacher _____ Grade _____

Assessment 2

Section 1, Part A

- 1. (A) (B) (C) (D)
- 2. (A) (B) (C) (D)
- 3. (A) (B) (C) (D)
- 4. (A) (B) (C) (D)
- 5. (A) (B) (C) (D)
- 6. (A) (B) (C) (D)
- 7. (A) (B) (C) (D)
- 8. (A) (B) (C) (D)

Section 1, Part B

- 9. (A) (B) (C) (D)
- 10. (A) (B) (C) (D)
- 11. (A) (B) (C) (D)
- 12. (A) (B) (C) (D)
- 13. (A) (B) (C) (D)
- 14. (A) (B) (C) (D)
- 15. (A) (B) (C) (D)
- 16. (A) (B) (C) (D)
- 17. (A) (B) (C) (D)
- 18. (A) (B) (C) (D)
- 19. (A) (B) (C) (D)
- 20A. (A) (B) (C) (D)
- 20B. (A) (B) (C) (D)
- 21. See page 32.

Section 2

- 22. (A) (B) (C) (D)
- 23. (A) (B) (C) (D)
- 24. (A) (B) (C) (D)
- 25. (A) (B) (C) (D)
- 26. (A) (B) (C) (D)
- 27. (A) (B) (C) (D)
- 28. (A) (B) (C) (D)
- 29. (A) (B) (C) (D)
- 30. (A) (B) (C) (D)
- 31. (A) (B) (C) (D)
- 32. (A) (B) (C) (D)
- 33. (A) (B) (C) (D)
- 34. (A) (B) (C) (D)
- 35. (A) (B) (C) (D)
- 36. (A) (B) (C) (D)
- 37. (A) (B) (C) (D)
- 38. (A) (B) (C) (D)
- 39. (A) (B) (C) (D)
- 40. (A) (B) (C) (D)
- 41. (A) (B) (C) (D)
- 42. See page 40.
- 43. See page 42.

TEACHER USE ONLY

- 21. (0) (1) (2)
- 42. (0) (1) (2) (3) (4)
- 43. (0) (1) (2)

Cut along the dotted line.