Answer questions 1–40. Answer questions outlined in purple in your test book. Answer all other questions on the Answer Form.

**1** Which comparison is true?
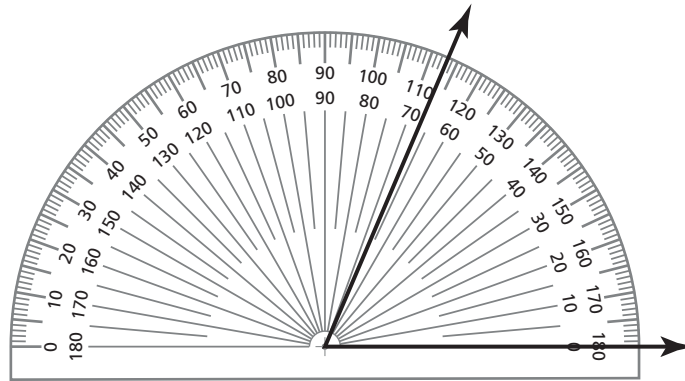
A   $\frac{2}{3} > \frac{4}{6}$

B   $\frac{1}{4} > \frac{2}{6}$

C   $\frac{3}{8} < \frac{1}{3}$

D   $\frac{4}{5} < \frac{7}{8}$

*Go On*

**2**   Zain is using a protractor to measure an angle.



What is the measure of the angle?

*Answer* _____ °

**3**   A pie is cut into 8 slices. Wen eats 2 slices. She says she ate $\frac{1}{4}$ of the pie.

Which statement best describes Wen's claim?

**A**   Wen is not correct. She ate $\frac{2}{6}$ of the pie.

**B**   Wen is not correct. She ate $\frac{1}{2}$ of the pie.

**C**   Wen is correct if the 8 slices are the same size.

**D**   Wen is correct if there are 3 slices left.

**4**

Select the problem that could be solved by the equation.

$$8 \times 2 = 16$$

**A** Felicia has 8 marbles. She gives 2 marbles to Ryan. How many marbles does Felicia have now?

**B** Felicia has 8 marbles. Ryan has 2 times as many marbles as Felicia. How many marbles does Ryan have?

**C** Felicia has 8 marbles. She finds 2 more marbles. How many marbles does Felicia have now?

**D** Felicia has 8 marbles. She has 2 times as many marbles as Ryan. How many marbles does Ryan have?

**Part B**

Select the problem that could be solved by the equation.

$$6 \times 7 = 42$$

**A** Adam read 6 pages in his book yesterday. Today he read 7 more pages than he read yesterday. How many pages did he read yesterday and today?

**B** Adam checked out 7 books from the library. The next week he returned 6 of the books. How many books does Adam have left to return?

**C** There are 6 books on the top shelf. The bottom shelf has 7 times as many books as the top shelf. How many books are on the bottom shelf?

**D** There are 6 books on the top shelf and 7 books on the bottom shelf. How many books are on both shelves?

*Go On*

**5** Ellen has 6 pitchers of lemonade. Each pitcher is filled with $\frac{3}{4}$ gallon of lemonade. The total number of gallons of lemonade is between which two whole numbers?

A   2 and 3

B   3 and 4

C   4 and 5

D   5 and 6

**6** Select all the ways you can divide 14 flowers into equal groups with none left over.

A   2 groups

B   3 groups

C   4 groups

D   5 groups

E   6 groups

F   7 groups

**7**   Ms. Diaz gave five students in her math class a fraction to write on the board. The table shows the fraction Ms. Diaz gave each student.

| Student | Fraction |
|---------|----------|
| Marcy | $\dfrac{34}{100}$ |
| Ava | $\dfrac{28}{100}$ |
| Tyler | $\dfrac{6}{10}$ |
| Mike | $\dfrac{72}{100}$ |
| Kristen | $\dfrac{2}{10}$ |

Write and solve an equation to show the sum of Marcy's fraction and Tyler's fraction.

**Answer** _____

*Go On*

**8**  One weekend there were 4,725 visitors to a state park. The next weekend there were 2,916 visitors. Park rangers want to estimate the total number of visitors.

### Part A

What is the total if the numbers first are rounded to the nearest ten?

**A**  7,700

**B**  7,650

**C**  7,640

**D**  7,630

### Part B

What is the total if the numbers first are rounded to the nearest hundred?

**A**  7,600

**B**  7,000

**C**  6,700

**D**  6,600

**9**  Which fractions and decimals are equivalent? Mark an X in the column(s). You may mark more than one box for each decimal.

|  | $\frac{5}{10}$ | $\frac{50}{100}$ | $\frac{50}{10}$ | $\frac{5}{100}$ |
|---|---|---|---|---|
| **a.** 0.05 | | | | |
| **b.** 0.50 | | | | |
| **c.** 0.5 | | | | |
| **d.** 5.00 | | | | |

**10** For homework, Nadia must compare the fractions $\frac{3}{5}$, $\frac{6}{10}$, and $\frac{8}{12}$.

*Part A*

Nadia thinks that $\frac{3}{5}$ is less than $\frac{6}{10}$ because 3 is less than 6 and 5 is less than 10. Do you agree? Explain your reasoning.

_____

_____

_____

_____

*Part B*

Use $<$, $>$, or $=$. Write the correct symbol in the circle.

$\frac{3}{5}$ ◯ $\frac{6}{10}$

*Part C*

Nadia thinks that $\frac{6}{10}$ is equal to $\frac{8}{12}$ because both fractions have a denominator that is 4 more than the numerator. Do you agree? Explain your reasoning.

_____

_____

_____

_____

*Go On*

### Part D

Use $<$, $>$, or $=$. Write the correct symbol in the circle.

$$\frac{6}{10} \bigcirc \frac{8}{12}$$

### Part E

Which fraction is the greatest: $\frac{3}{5}$, $\frac{6}{10}$, or $\frac{8}{12}$? Explain your reasoning.

_____

_____

_____

_____

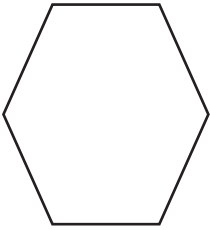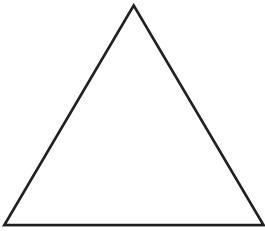**11** A pizza has 8 slices. John wants to order enough pizzas so 14 people can have 3 slices each.
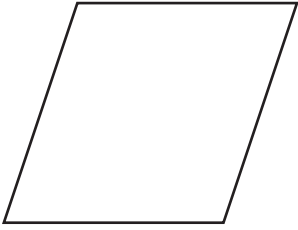
Which correctly explains how John should decide how many pizzas to order?

**A** John should order 5 pizzas because 40 slices is closest to the number of slices he needs.

**B** John should order 5 pizzas because if he orders 6 pizzas, he will have extra slices.

**C** John should order 6 pizzas because if he orders 5 pizzas, he will be short 2 slices.

**D** John should order 6 pizzas because then he will not have any extra slices.

**12** Mark an X in the box or boxes that describe the attributes of each figure. You may mark more than one box for each figure.

| | At least one pair of parallel sides | At least one pair of perpendicular sides | At least two lines of symmetry |
|---|---|---|---|
| **a.** (star) | | | |
| **b.** (hexagon) | | | |
| **c.** (triangle) | | | |
| **d.** (parallelogram) | | | |

*Go On*

**13** Look at each comparison below. Does the comparison show a correct way to compare the fractions $\frac{2}{3}$ and $\frac{5}{8}$? Mark Yes or No.

| | Yes | No |
|---|:---:|:---:|
| **a.** $\frac{5}{6} > \frac{5}{8}$ | ○ | ○ |
| **b.** $\frac{10}{3} > \frac{10}{8}$ | ○ | ○ |
| **c.** $\frac{10}{15} < \frac{10}{16}$ | ○ | ○ |
| **d.** $\frac{10}{15} > \frac{10}{16}$ | ○ | ○ |
| **e.** $\frac{16}{24} > \frac{15}{24}$ | ○ | ○ |
| **f.** $\frac{16}{24} < \frac{16}{14}$ | ○ | ○ |

**14** Sidney and his cousin Jerry live in different cities. They are both traveling to their grandmother's house.

It took Sidney $4\frac{3}{4}$ hours to get to Grandma's house.

- First his mother drove him for $\frac{1}{2}$ hour to the bus stop.

- Then he rode on a bus for $2\frac{1}{4}$ hours to another bus stop.

- Then he rode a second bus for $1\frac{3}{4}$ hours.

- And then he walked to Grandma's house.

It took Jerry $3\frac{1}{4}$ hours to get to Grandma's house.

- First he walked for $\frac{1}{2}$ hour to the train station.

- Then he rode on a train for $1\frac{1}{4}$ hours.

- And then he took a bus right to Grandma's front door.

**Part A**

How much time did Sidney spend riding buses?

**Show your work.**

**Answer** _____ hours

*Go On*

## Part B

How long did it take Sidney to walk to Grandma's house?

**Show your work.**

**Answer** _____ hours

## Part C

How much longer was Sidney's trip to Grandma's than Jerry's trip to Grandma's?

**Show your work.**

**Answer** _____ hours

## Part D

How much time did Jerry spend riding on the bus?

**Show your work.**

**Answer** _____ hours

Jerry's trip home took $\frac{3}{4}$ hour longer than his trip there. How long did his trip home take?

*Show your work.*

*Answer* _____ hours

**15** Megan uses partial products to solve 6,424 ÷ 8 as shown by the area model.

|  | 750 | 5 | 3 |
|---|---|---|---|
| 8 | 6,000 | 400 | 24 |

Megan says the quotient is 758 because 750 + 5 + 3 = 758. What does Megan do wrong?

**A**  She divides 6,000 by 8 incorrectly.

**B**  She divides 400 by 8 incorrectly.

**C**  She divides 24 by 8 incorrectly.

**D**  She adds 750 + 5 + 3 incorrectly.

*Go On*

**16** Kerri plants some sunflower seeds in equal rows of 6 seeds each. Which could be the number of seeds Kerri plants? Mark **all** that apply.

A    56 seeds

B    66 seeds

C    72 seeds

D    76 seeds

E    88 seeds

**17** Which division problem has a remainder of 4?

A    $629 \div 5$

B    $505 \div 4$

C    $629 \div 3$

D    $505 \div 2$

**18** Caleb says that a figure with parallel sides also has perpendicular sides.

Does each figure support Caleb's claim?

| | Yes | No |
|---|---|---|
|  | | |
|  | | |
|  | | |
|  | | |
|  | | |

**19** Jeff has 60 science-fiction books and 32 nonfiction books. He gives 3 nonfiction books to his brother.

Which equation can be used to find the total number of books, $t$, Jeff has now?

**A** $60 + 32 = t$

**B** $60 - 3 = t$

**C** $60 + 32 - 3 = t$

**D** $60 + 32 + 3 = t$

**20** A bracelet costs \$15. A matching necklace costs 3 times as much as the bracelet. If $c$ is the cost of the necklace, which equation models the cost of the necklace?

**A** $\$15 \div 3 = c$

**B** $\$15 \times 3 = c$

**C** $\$15 + 3 = c$

**D** $3 \times \$15 + \$15 = c$

**21** Mrs. Chung made fruit punch with $2\frac{3}{4}$ liters of pineapple juice, $3\frac{1}{4}$ liters of orange juice, and $1\frac{3}{4}$ liters of cranberry juice. How many liters of juice did Mrs. Chung use in her fruit punch?
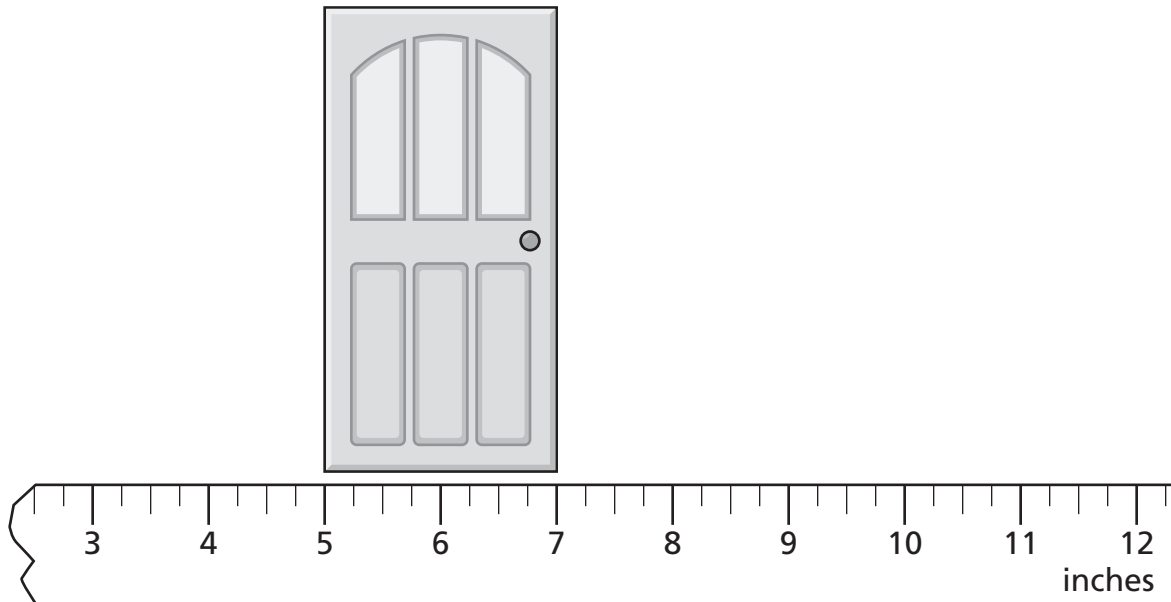
**Show your work.**

**Answer** _____ liters

*Go On*

**22** Kayla is building a dollhouse. She wants to use this front door for her dollhouse.

**Part A**

The height of the door is 2 times the width. Write and solve an equation to find the height of the door. Let $h$ represent the height.

*Equation* _____

*Answer* Height = _____ inches

**Part B**

What is the area of the door?

*Answer* Area = _____ square inches

***Part C***

Kayla also has a window to put next to the door. The area of the door is twice the area of the window. Write and solve an equation to find the area of the window. Let *w* represent the area of the window.

***Equation*** _____

***Answer*** Area = _____ square inches

***Part D***

The window cost $5. The door cost 3 times that amount. How much did the door cost?

***Answer*** _____

**23**  Complete the story about friends at a pie shop to show that $4 \div 5 = \frac{4}{5}$.

5 friends want to try 4 different pies.

Each pie is cut into 5 equal slices.

Each slice is _____ of a pie.

Each friend gets 1 slice from each pie.

Each friend gets _____ of a pie in total.
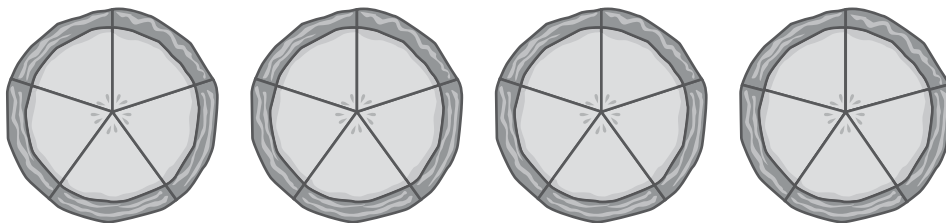


*Go On*

**24**  The westbound lanes of the Holland Tunnel are 8,558 feet long. The eastbound lanes are 8,371 feet long.

**Part A**

Round each length to the nearest ten. Using the rounded numbers, how much longer are the westbound lanes than the eastbound lanes?

**A**  170 feet

**B**  180 feet

**C**  190 feet

**D**  200 feet

**Part B**

Round each length to the nearest hundred. Using the rounded numbers, how much longer are the westbound lanes than the eastbound lanes?

**A**  100 feet

**B**  200 feet

**C**  300 feet

**D**  400 feet

**25**  Ciara studied a total of $4\frac{3}{4}$ hours in one week. She studied math for $1\frac{3}{4}$ hours and social studies for $1\frac{1}{4}$ hours. The rest of the time she studied for a science test. How long did Ciara spend studying for her science test?

**Show your work.**

**Answer** _____ hours

**26** The width of Carrie's garden is 6 feet and the area is 48 square feet. She is going to add 2 feet to the length and 2 feet to the width. Which statement is true?

**A** The area will increase by 32 square feet because $80 - 48 = 32$.

**B** The area will increase by 4 square feet because $2 \times 2 = 4$.

**C** The perimeter will increase by 18 feet because $8 + 10 = 18$.

**D** The perimeter will increase by 4 feet because $2 + 2 = 4$.

---

**27** What must be true about *a* to make this equation true?

$$\frac{a}{5} = \frac{8}{10}$$

|  | True | False |
|---|---|---|
| $a = 2$ |  |  |
| $a = 4$ |  |  |
| $a = 16$ |  |  |

*Go On*

**28** The table shows the numbers of different types of DVDs in Clint's collection. He can fit up to 9 DVDs on a shelf.

| Movie Type | Number of DVDs |
|---|---|
| Comedy | 30 |
| Mystery | 25 |
| Adventure | 16 |

What is the least number of shelves he needs for all his comedy and mystery DVDs?

**A**  6

**B**  7

**C**  8

**D**  9

**29** Mr. Martin is planning to take his 24 fourth-grade students to see a play. There will also be 4 adult helpers going to the play. Mr. Martin is trying to decide which way of buying the tickets will be cheapest.

Way 1: Buy 24 student tickets for $13 each, and buy 5 adult tickets for $17 each

Way 2: Buy a pack of 30 student tickets for $300, and buy 5 adult tickets for $17 each

**Part A**

Write an equation that can be used to find the total cost, c, of the tickets if Mr. Martin uses Way 1. Then solve the equation.

*Equation* _____

*Answer* $_____

### Part B

Write an equation that can be used to find the total cost, *c*, of the tickets if Mr. Martin uses Way 2. Then solve the equation.

**Equation** _____

**Answer** $_____

### Part C

What is the difference in cost between Way 1 and Way 2?

**Show your work.**

**Answer** _____

### Part D

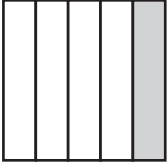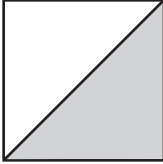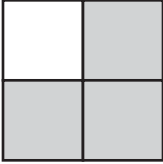Which way should Mr. Martin choose if he takes only 23 students to the play? Explain your answer.
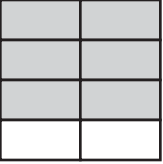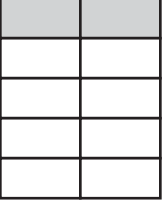
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_____

_____

*Go On*
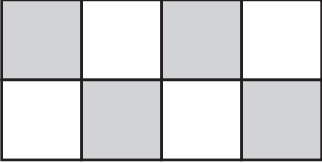
**30** Which models represent fractions equivalent to Figure 1, Figure 2, or Figure 3? Mark an X in the box for models a–d.

| | Figure 1 | Figure 2 | Figure 3 |
|---|---|---|---|
| a. | | | |
| b. | | | |
| c. | | | |
| d. | | | |

**31** Deanna is using a recipe that calls for $\frac{3}{4}$ pound of flour. The recipe serves 3 people but Deanna needs to serve 6 people. She writes this equation:

$$\frac{3}{4} \times 6 = 4\frac{1}{2}$$

What is Deanna's mistake?

**A** Deanna should use the equation $\frac{3}{4} \times 2 = 1\frac{1}{2}$, because she needs to double the recipe to serve 6 people.

**B** Deanna used the correct equation, but the product is $\frac{18}{4}$, not $4\frac{1}{2}$.

**C** Deanna should use the equation $\frac{3}{4} + 3 = 3\frac{3}{4}$, because she needs to serve 3 more people.

**D** Deanna should use the equation $\frac{3}{4} + \frac{3}{4} = \frac{6}{8}$, because she will need a total of $\frac{6}{8}$ pound of flour.

**32** Medfield's population can be written as $100{,}000 + 7{,}000 + 300 + 80 + 9$.

Which number below is greater than Medfield's population?

**A** one hundred seven thousand, eight hundred

**B** one hundred seven thousand, ninety-four

**C** one hundred thousand, two hundred twelve

**D** one hundred thousand, three hundred eighty-nine

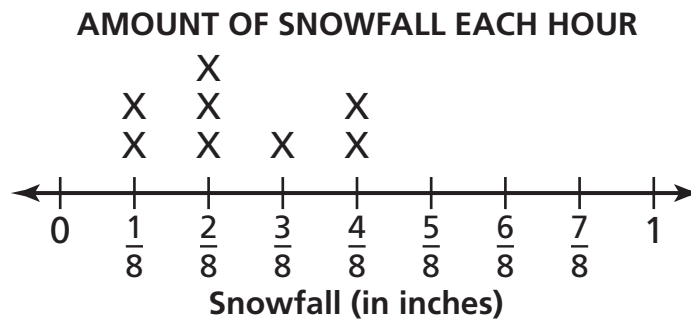*Go On*

**33** A baker makes 500 muffins over three days.

- On Friday, he makes *m* muffins.
- On Saturday, he makes twice as many muffins as on Friday.
- On Sunday, he makes 140 muffins.

Write and solve an equation to find the number of muffins the baker makes on Friday.

*Equation* _____

*Answer* _____ muffins

---

**34** The line plot below shows the amount of snowfall, in inches, each hour during an 8-hour snowstorm.

**AMOUNT OF SNOWFALL EACH HOUR**

```
                X
        X   X       X
        X   X   X   X
    +---+---+---+---+---+---+---+---+--->
    0   1   2   3   4   5   6   7   1
        8   8   8   8   8   8   8
           Snowfall (in inches)
```
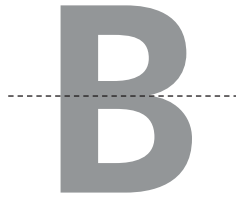
What was the total snowfall amount for the storm?

*Show your work.*

*Answer* _____ inches

**35** Brett makes party invitations by cutting out his first initial from craft paper. He writes the information about the party on the back of the letter and then folds it into matching parts to fit in an envelope. The dashed line shows the fold.

B

**Part A**

Nate, Hector, Diane, and Maya all want to make party invitations the same way.

Draw a line to match each comment with the name of the person who made it.

| | |
|---|---|
| I can fold my invitation along only a vertical line. | Nate |
| I can fold my invitation along only a horizontal line. | Hector |
| I can fold my invitation more than one way. | Diane |
| I can't fold my invitation at all. The parts won't match. | Maya |

*Go On*

## Part B

Ellie says she can fold her first initial along a line to make matching parts in only one way.

Is she correct? If so, write the letter and draw a line to show where you could fold it.

*Answer* _____

## Part C

Brett says the letters U, V, and X can fold only along a vertical line. Is he correct? Why or why not? Write the letters and draw a line to show where you could fold them.

## Part D

Oliver traces a circle to make his first initial. He says he can fold his first initial into more different ways than anyone else. Explain whether you agree with him and why.

_____

_____

**36** Look at this equation:

$$3\frac{4}{7} = \underline{\hspace{1cm}} + \frac{2}{7}$$

Which expressions could complete the equation? Mark **all** that apply.

**A**  $1 + 1 + \frac{2}{7}$

**B**  $\frac{2}{7} + \frac{2}{7} + \frac{2}{7}$

**C**  $1 + 1 + 1 + \frac{2}{7}$

**D**  $\frac{7}{7} + \frac{7}{7} + \frac{7}{7} + \frac{1}{7} + \frac{1}{7}$

**E**  $1 + \frac{7}{7} + \frac{7}{7} + \frac{1}{7} + \frac{1}{7}$

**F**  $1 + 1 + 1$

**37** Lily used the equation $9 \times 3 = 27$ to solve a problem. Which problem could Lily have solved?

**A**  Emilio has 9 baseball cards. He gives 3 baseball cards to Amanda. How many baseball cards does Emilio have now?

**B**  Emilio has 9 baseball cards. He places the same number of baseball cards into each of 3 boxes. How many baseball cards are in each box?

**C**  Emilio has 9 baseball cards. Brandon has 3 times as many baseball cards as Emilio. How many baseball cards does Brandon have?

**D**  Emilio has 9 baseball cards. He buys 3 more baseball cards. How many baseball cards does Emilio have now?

*Go On*

**38** The cost of a vacation home is $640 per day. Which equation shows a way to find the cost to rent the vacation home for one week?

**A** $600 + (40 \times 7) = 600 + 280$

**B** $(600 \times 7) + 40 = 4{,}200 + 40$

**C** $(60 \times 7) + (40 \times 7) = 420 + 280$

**D** $(600 \times 7) + (40 \times 7) = 4{,}200 + 280$

---

**39** Ms. Lopez is making some improvements to her home.

**Part A**

Ms. Lopez wants to place a ribbon around the outer edge of a rectangular mirror. The area of the mirror is 324 square inches. The width of the mirror is 12 inches. How many inches of ribbon does Ms. Lopez need?

**Show your work.**

**Answer** _____ inches

## Part B

Ms. Lopez wants to place a ribbon around the edge of a second rectangular mirror. The width of the mirror is 16 inches and the length is 28 inches. How many inches of ribbon does Ms. Lopez need?

*Show your work.*

*Answer* _____ inches

## Part C

Next, Ms. Lopez wants to cover a square table with 1-inch tiles. The length of one side of the table is 36 inches, as shown below.

36 inches
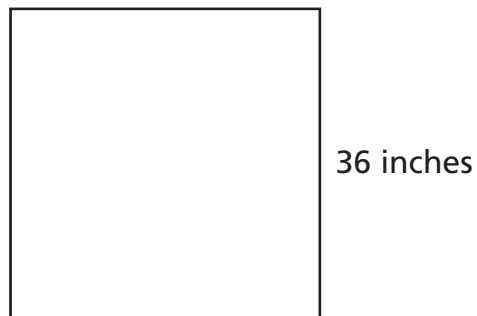
How many tiles does she need?

*Show your work.*

*Answer* _____ tiles

*Go On*

## Part D

Ms. Lopez wants to buy a garden blanket to cover her flowers when the temperature outside is too cold. Her garden has a length of 14 feet and a perimeter of 48 feet.

14 feet
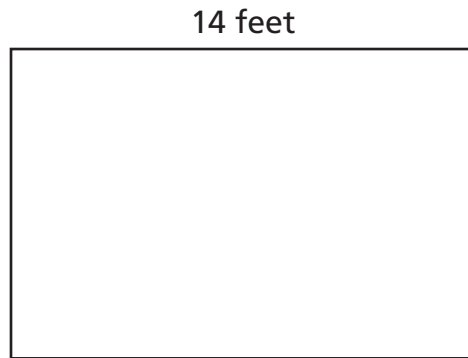
How can Ms. Lopez find what size blanket would cover her garden? Explain your reasoning and find the size of the blanket.
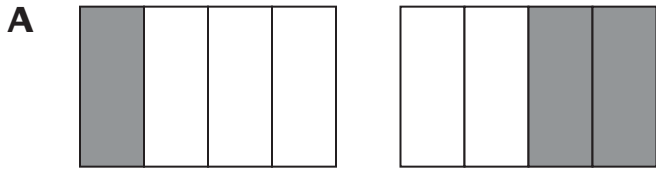
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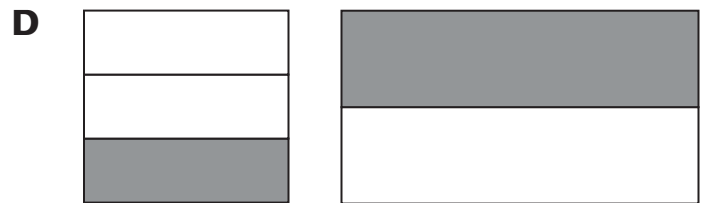_____

_____

**40** Mark **all** that apply.

**Part A**

Which models represent the sum $\frac{1}{4} + \frac{2}{4}$?

**A**

**B**

**C**

**D**
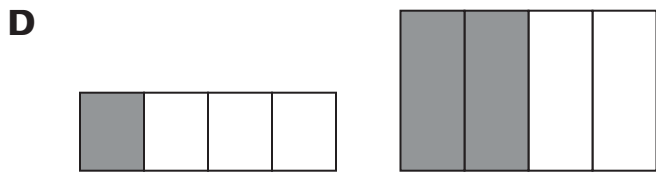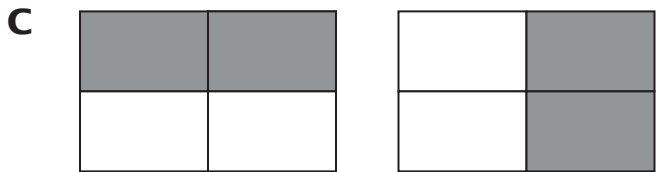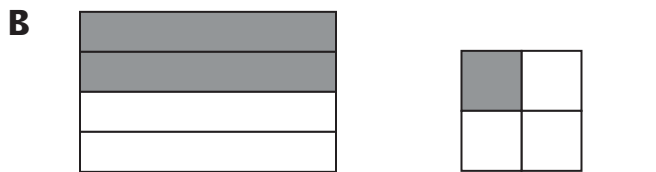
**Part B**

Which models represent the sum $\frac{1}{3} + \frac{1}{2}$?

**A**

**B**

**C**

**D**
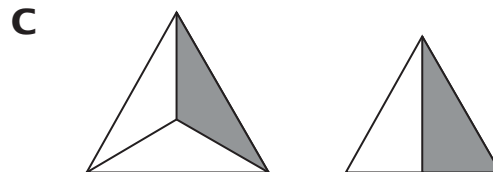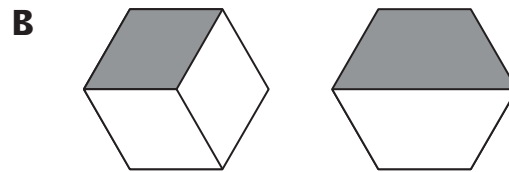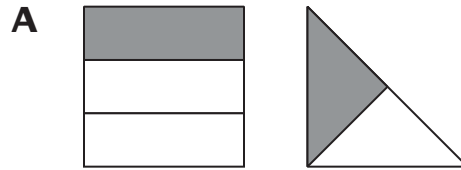
**STOP**

Name_____

Teacher_____ Grade_____

## Assessment 2

1.  Ⓐ Ⓑ Ⓒ Ⓓ

2.  See page 36.

3.  Ⓐ Ⓑ Ⓒ Ⓓ

4A. Ⓐ Ⓑ Ⓒ Ⓓ
4B. Ⓐ Ⓑ Ⓒ Ⓓ

5.  Ⓐ Ⓑ Ⓒ Ⓓ

6.  Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Ⓕ

7.  See page 39.

8A. Ⓐ Ⓑ Ⓒ Ⓓ
8B. Ⓐ Ⓑ Ⓒ Ⓓ

9.  See page 40.

10. See page 41.

11. Ⓐ Ⓑ Ⓒ Ⓓ

12. See page 43.

13. See page 44.

14. See page 45.

15. Ⓐ Ⓑ Ⓒ Ⓓ

16. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ

17. Ⓐ Ⓑ Ⓒ Ⓓ

18. See page 48.

19. Ⓐ Ⓑ Ⓒ Ⓓ

20. Ⓐ Ⓑ Ⓒ Ⓓ

21. See page 49.

22. See page 50.

23. See page 51.

24A. Ⓐ Ⓑ Ⓒ Ⓓ
24B. Ⓐ Ⓑ Ⓒ Ⓓ

25. See page 52.

26. Ⓐ Ⓑ Ⓒ Ⓓ

27. See page 53.

28. Ⓐ Ⓑ Ⓒ Ⓓ

29. See page 54.

30. See page 56.

31. Ⓐ Ⓑ Ⓒ Ⓓ

32. Ⓐ Ⓑ Ⓒ Ⓓ

33. See page 58.

34. See page 58.

35. See page 59.

36. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Ⓕ

37. Ⓐ Ⓑ Ⓒ Ⓓ

38. Ⓐ Ⓑ Ⓒ Ⓓ

39. See page 62.

40A. Ⓐ Ⓑ Ⓒ Ⓓ
40B. Ⓐ Ⓑ Ⓒ Ⓓ

### TEACHER USE ONLY

2.  ⓪ ①

7.  ⓪ ①

9.  ⓪ ①

10. ⓪ ① ② ③ ④ ⑤ ⑥

12. ⓪ ①

13. ⓪ ①

14. ⓪ ① ② ③ ④ ⑤ ⑥

18. ⓪ ①

21. ⓪ ①

22. ⓪ ① ② ③ ④

23. ⓪ ①

25. ⓪ ①

27. ⓪ ①

29. ⓪ ① ② ③ ④

30. ⓪ ①

33. ⓪ ①

34. ⓪ ①

35. ⓪ ① ② ③ ④ ⑤

39. ⓪ ① ② ③ ④

Cut along the dotted line.