

- 1 Kyle's ruler shows eighths of an inch. How many eighths make 1 whole inch?

A. 2
B. 4
C. 6
D. 8

- 2 Julia bought a set of plates for \$82, a set of serving bowls for \$57, a set of glasses for \$52, and a box for flatware for \$65. Which item would round to \$60?

A. a set of plates
B. a set of serving bowls
C. a set of glasses
D. a box of flatware

- 3 Henry has 9 stacks of cups. If Henry has 27 cups, how many cups are in each stack? Which two equations could be used to find the answer?

A. $27 \times ? = 27$
B. $9 \times ? = 27$
C. $27 \div 9 = ?$
D. $9 \div ? = 27$

- 4 Michael wants to multiply $6 \times 3 \times 4$. First, he multiplies 6×3 . What should his next step be?

A. Multiply 18×4 .
B. Multiply 18×3 .
C. Multiply 6×4 .
D. Multiply 3×4 .

- 5 Where is Point H located on the number line?



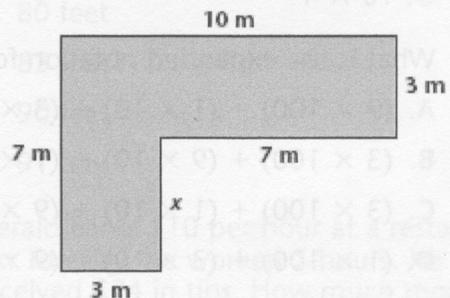
A. $\frac{2}{3}$
B. $\frac{3}{4}$
C. $\frac{4}{5}$
D. $\frac{6}{7}$

- 6 Deanna has a pot with 350 mL of water. If she adds 150 mL into the pot, how much water is in the pot?

A. 400 mL
B. 450 mL
C. 500 mL
D. 520 mL

- 7 What is the area of the shape?

Area of a rectangle = $l \times w$



A. 42 square meters
B. 51 square meters
C. 79 square meters
D. 91 square meters

- 8 A food truck serves soft tacos on either flour or corn tortillas. Yesterday, they used 134 flour tortillas and 267 corn tortillas. How many tortillas were used in all?
- A. 400
B. 401
C. 411
D. 413
- 9 Which measurement is the most reasonable estimate of the length of a cell phone?
- A. 60 ft
B. 6 ft
C. 60 in.
D. 6 in.
- 10 Avery uses the Distributive Property to multiply 16×4 .
 $(10 + 6) \times 4 = (10 \times 4) + (\text{_____})$
 First, she multiplies 10×4 . What should her next step be? Which of these fills in the blank?
- A. 6×4
B. 4×10
C. 10×6
D. 16×4
- 11 What is the expanded notation for 319?
- A. $(9 \times 100) + (1 \times 10) + (3 \times 1)$
B. $(3 \times 100) + (9 \times 10) + (1 \times 1)$
C. $(3 \times 100) + (1 \times 10) + (9 \times 1)$
D. $(1 \times 100) + (3 \times 10) + (9 \times 1)$
- 12 Which best describes the pattern?
 23, 25, 27, 29, 31, 33
- A. Divide by 2.
B. Multiply by 2.
C. Subtract 2.
D. Add 2.
- 13 Theo has a rectangular deck that is 8 feet long and 10 feet wide. What is the area of the deck?
- Area of a rectangle = $l \times w$
- A. 60 square feet
B. 72 square feet
C. 80 square feet
D. 86 square feet
- 14 Nathan loads 825 pounds of paving stones on a delivery truck. He unloads 365 pounds at his first stop. How many pounds does he have left to deliver?
- A. 450 pounds
B. 460 pounds
C. 560 pounds
D. 580 pounds
- 15 Lucas needs to place 42 catalogs equally on 6 tables. How many catalogs should he place on each table?
- A. 4
B. 5
C. 6
D. 7
- 16 Which of the following is about 20 centimeters in length?
- A. bathtub
B. football field
C. notebook paper
D. couch
- 17 A box of nails weighs 453 grams. How much do 2 boxes of nails weigh?
- A. 455 grams
B. 686 grams
C. 856 grams
D. 906 grams

- 18 Continue the pattern. What is the next equivalent fraction?

$$\frac{2}{3}, \frac{6}{9}, ?$$

- A. $\frac{12}{27}$
 B. $\frac{18}{27}$
 C. $\frac{10}{14}$
 D. $\frac{27}{18}$

- 19 Which equation does the model show?



- A. $323 - 216 = ?$
 B. $438 - 223 = ?$
 C. $523 - 213 = ?$
 D. $538 - 215 = ?$

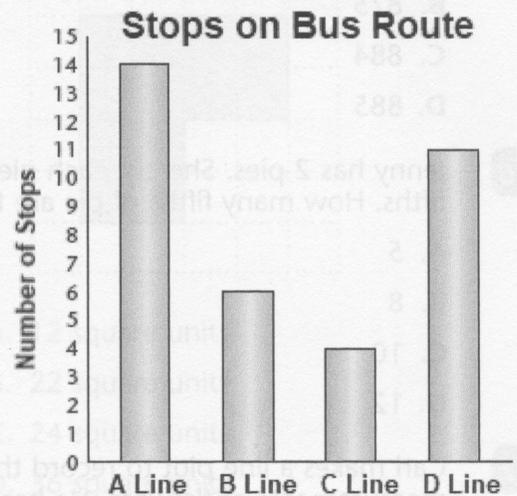
- 20 Brenda works for a trucking company and tracks her mileage each week. She drove 537 miles this week. What is the value of the 5 in 537?

- A. five hundreds
 B. five thirties
 C. five tens
 D. five ones

- 21 Kaley buys 4 boxes of pens. There are 7 pens in a box. Which of the following shows how to use repeated addition to find the total number of pens?

- A. $4 + 4 + 4 + 4 = 16$ pens
 B. $7 + 7 + 7 + 7 = 28$ pens
 C. $4 + 7 + 4 + 7 + 4 + 7 = 33$ pens
 D. $7 + 7 + 7 + 7 + 7 + 7 = 42$ pens

- 22 How many more stops are on the A Line than the C Line?



- A. 3
 B. 8
 C. 10
 D. 12

- 23 Henry power washed the sidewalk in front of an office building. He washed 56 feet of the sidewalk before lunch. After lunch, he washed another 34 feet to finish the job. How long is the sidewalk in front of the office building?

- A. 80 feet
 B. 83 feet
 C. 90 feet
 D. 91 feet

- 24 Gerald earns \$10 per hour at a restaurant. On Tuesday, he worked 5 hours. He received \$74 in tips. How much money did Gerald earn on Tuesday?

- A. \$76
 B. \$89
 C. \$114
 D. \$124

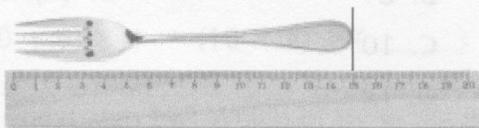
25 Solve. $248 + 637 =$

- A. 874
- B. 875
- C. 884
- D. 885

26 Jenny has 2 pies. She cut each pie into fifths. How many fifths of pie are there?

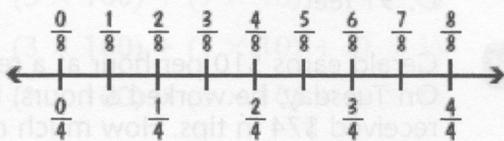
- A. 5
- B. 8
- C. 10
- D. 12

27 Carl makes a line plot to record the measurements of flatware. He has 8 of the forks and 6 of the spoons shown. How many Xs will he place above the point labeled 15 cm?



- A. 6
- B. 8
- C. 11
- D. 15

28 Which fraction is equivalent to $\frac{1}{4}$?



- A. $\frac{8}{8}$
- B. $\frac{6}{8}$
- C. $\frac{4}{8}$
- D. $\frac{2}{8}$

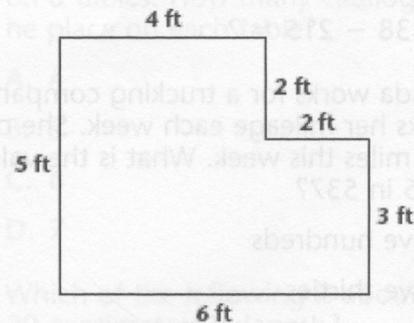
29 Vijay receives 9 boxes of folders. Each box has 20 folders in it. How many folders does he receive in all?

- A. 180
- B. 160
- C. 140
- D. 120

30 Jonathon is planning a company dinner. So far, 174 people have responded yes to the invitation. He expects more people to attend. Which number is greater than ($>$) 174?

- A. 104
- B. 147
- C. 170
- D. 192

31 What is the perimeter of the shape?



- A. 22 feet
- B. 21 feet
- C. 20 feet
- D. 19 feet

32 Paula has an extension cord that is 25 feet long. Amber has an extension cord that is 9 feet long. How much longer is Paula's extension cord?

- A. 11 ft
- B. 12 ft
- C. 16 ft
- D. 19 ft

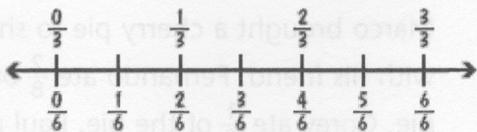
- 33 Luisa is building sections of a fence. She uses 5 boards in each section. Which fact family will help her determine how many sections she can make with 20 boards?

- A. $5 + 20 = 25$; $20 + 5 = 25$;
 $25 - 5 = 20$; $25 - 20 = 5$
- B. $5 + 15 = 20$; $15 + 5 = 20$;
 $20 - 5 = 15$; $20 - 15 = 5$
- C. $2 \times 10 = 20$; $10 \times 2 = 20$;
 $20 \div 2 = 10$; $20 \div 10 = 2$
- D. $5 \times 4 = 20$; $4 \times 5 = 20$;
 $20 \div 4 = 5$; $20 \div 5 = 4$

- 34 Solve. $35 + 26 + 12 =$

- A. 61
- B. 63
- C. 73
- D. 74

- 35 Which two fractions are less than $\frac{3}{6}$?

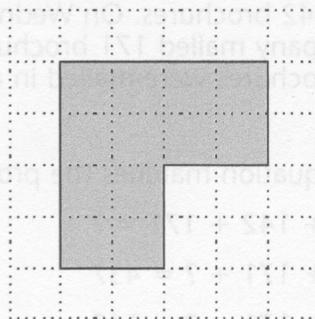


- A. $\frac{1}{6}$
- B. $\frac{5}{6}$
- C. $\frac{1}{3}$
- D. $\frac{2}{3}$

- 36 Which of the following sets of measurements could be the width of the same garage door?

- A. 3 meters; 30 centimeters
- B. 3 meters; 300 centimeters
- C. 300 meters; 30 centimeters
- D. 300 meters; 3 centimeters

- 37 What is the area of the unshaded shape?



- A. 12 square units
- B. 22 square units
- C. 24 square units
- D. 36 square units

- 38 A small farm grows three types of fruit trees: apple, peach, and pear. There are 133 pear trees and 151 peach trees. There are 317 more apple trees than pear trees. How many fruit trees are there in all?

- A. 468
- B. 601
- C. 734
- D. 752

- 39 Brad looks at the clock when he gets on a train. If it takes 30 minutes to reach his stop, what time does he get off the train?



- A. 2:03
- B. 1:53
- C. 1:43
- D. 1:33

- 40 A company mailed 437 brochures on Monday. On Tuesday, the company mailed 142 brochures. On Wednesday, the company mailed 171 brochures. How many brochures were mailed in all?

Part A

Which equation matches the problem?

- A. $437 + 142 + 171 = ?$
- B. $142 + 171 + ? = 437$
- C. $437 + 171 = ? + 142$
- D. $? + 171 = 142 + 437$

Part B

What is the missing amount?

- A. 124
- B. 408
- C. 740
- D. 750

- 41 A door is 8 feet high and 3 feet wide. What are the measurements of the door in inches?

1 foot = 12 inches

- A. 72 inches high, 36 inches wide
- B. 96 inches high, 36 inches wide
- C. 96 inches high, 48 inches wide
- D. 108 inches high, 48 inches wide

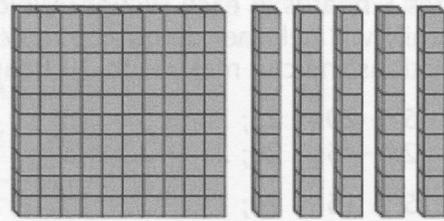
- 42 A shape has a square base and 4 triangular faces. What is the shape?

- A. cube
- B. rectangular prism
- C. square pyramid
- D. triangular prism

- 43 In a call center, there are 8 desks in a row. How many desks are in 7 rows?

- A. 15
- B. 49
- C. 56
- D. 64

- 44 Which of these describes the model?



- A. 160
- B. 150
- C. 140
- D. 105

- 45 Which of these is a true statement?

- A. A rectangle has 4 right angles, and all sides are of equal length.
- B. A trapezoid has 4 right angles.
- C. A square has exactly 1 pair of parallel sides.
- D. A parallelogram has 2 pairs of parallel sides.

- 46 Marco brought a cherry pie to share with his friend. Fernando ate $\frac{2}{8}$ of the pie. Corey ate $\frac{1}{8}$ of the pie. Paul ate $\frac{3}{8}$ of the pie. Marco ate $\frac{1}{8}$ of the pie. Which statement is true?

- A. Corey ate more pie than Fernando.
- B. Fernando and Paul ate the same amount of pie.
- C. Paul ate more pie than anyone else.
- D. Marco ate less pie than Corey.

- 47 Elena has 32 custom orders to complete. If she can finish 4 orders a day, how many days will it take her to finish all the orders?

- A. 9
- B. 8
- C. 7
- D. 6

- 48 Which of these has 6 sides?

- A. hexagon
- B. pentagon
- C. quadrilateral
- D. triangle

Level E

Pretest

1. D. 8 eighths make 1 whole. 2.G.3, 3.NF.1
2. B. The set of serving bowls is the only item that rounds to \$60. \$57 rounded to the nearest ten is \$60. 3.NBT.1
3. B, C. $9 \times ? = 27$ and $27 \div 9 = ?$ will provide the correct answer. There are 3 cups in each stack. 3.OA.4
4. A. After Michael multiplies the first two factors, he must multiply that product by the last factor. The product of the first factors is 18, so he should multiply 18 by 4. 3.OA.5
5. B. Each section of the number line is one fourth the distance from 0 to 1, and H is at the end of the 3rd section, so H is at $\frac{1}{4} + \frac{1}{4} + \frac{1}{4} = \frac{3}{4}$. 3.NF.2.a, 3.NF.2.b
6. C. $350 + 150 = 500$. 500 mL are in the pot. 3.MD.2
7. A. The shape can be divided into two rectangles. The top rectangle is 10 m \times 3 m, so its area is 30 m². The bottom rectangle is 3 \times 4, so its area is 12 m². Add the two areas together: $30 + 12 = 42$ square meters. 3.G.2, 3.MD.7.c, 3.MD.7.d
8. B.
- $$\begin{array}{r} 11 \\ 134 \\ +267 \\ \hline 401 \end{array}$$
- 2.NBT.7, 3.NBT.2
9. D. A cell phone is shorter than a 12 inch ruler, so 6 in. is a reasonable length. 2.MD.3
10. A. Since Avery broke apart 16, her next step is to multiply 6 by 4. 3.OA.5
11. C. The expanded notation for 319 is $(3 \times 100) + (1 \times 10) + (9 \times 1)$. 2.NBT.3
12. D. The pattern is add 2. $23 + 2 = 25$, $25 + 2 = 27$, $27 + 2 = 29 \dots$ 3.OA.9
13. C. $8 \times 10 = 80$ 3.MD.7.a, 3.MD.7.b
14. B.
- $$\begin{array}{r} 712 \\ 825 \\ -365 \\ \hline 460 \end{array}$$
- 2.NBT.7, 3.NBT.2
15. D. $6 \times 7 = 42$; therefore, $42 \div 6 = 7$. Lucas should place 7 catalogs on each table. 3.OA.6
16. C. Notebook paper could be about 20 centimeters long. The other objects are too large. 2.MD.3
17. D. $453 + 453 = 906$ grams 3.MD.2
18. B. The rule for the pattern is multiply by $\frac{3}{3}$. The next equivalent fraction in the pattern is $\frac{6 \times 3}{9 \times 3} = \frac{18}{27}$. 3.NF.3.b
19. D. The model shows 5 hundreds, 3 tens, and 8 ones. 2 hundred, 1 ten, and 5 ones are subtracted. The matching equation is $538 - 215 = ?$ 2.NBT.7
20. A. $537 = 500 + 30 + 7$. The value of 5 in 537 is 5 hundreds. 2.NBT.1
21. B. There are 4 equal groups of 7. You can solve by adding $7 + 7 + 7 + 7$. 3.OA.1, 2.NBT.2
22. C. The A Line has 14 stops. The C Line has 4 stops. $14 - 4 = 10$. 2.MD.10, 3.MD.3
23. C. Add the two lengths to find the total: $56 + 34 = 90$ feet. 2.MD.6
24. D. Gerald earned 5×10 , or \$50, in wages; $50 + 74 = 124$. He earned \$124 on Tuesday. 3.OA.8, 3.OA.3
25. D. (break apart method) $248 + 637 = 8$ hundreds + 7 tens + 15 ones = $800 + 70 + 15 = 885$. 2.NBT.7, 3.NBT.2
26. C. 1 whole is $\frac{5}{5}$. $\frac{5}{5} + \frac{5}{5} = \frac{10}{5}$. 3.NF.3.c
27. B. There are 8 forks that measure 15 cm, so Carl should place eight Xs above the point labeled "15 cm." 3.MD.4
28. D. The fraction on the number line that is directly above $\frac{1}{4}$ is $\frac{2}{8}$. 3.NF.3.a
29. A. Multiply 9 by 2 tens to get 18 tens. Multiply 18 by 10 to get 180. 3.NBT.3
30. D. $204 > 174$. The digit in the hundreds place in 204 is greater than the digit in the hundreds place in 174. 2.NBT.4
31. A. $4 + 2 + 2 + 3 + 6 + 5 = 22$ feet. 3.MD.8
32. C. The difference can be found by subtracting, $25 - 9 = 16$ ft. 2.MD.4
33. D. $20 \div 5 = 4$ because $4 \times 5 = 20$. $20 \div 4 = 5$ because $5 \times 4 = 20$. 3.OA.7
34. C. (break apart method) $35 + 26 + 12 = 6$ tens + 13 ones = $60 + 13 = 73$. 2.NBT.6
35. A, C. The fractions $\frac{1}{6}$ and $\frac{1}{3}$ are to the left of $\frac{3}{6}$. 3.NF.3.d
36. B. The number of meters must be smaller than the number of centimeters. 1 meter = 100 centimeters. 3 meters = 300 centimeters. 2.MD.2
37. C. 24 square units cover the unshaded shape. 3.MD.5.b

38. C. To find the number of apple trees, add $133 + 317 = 450$. Then add the number of all trees together: $450 + 133 + 151 = 734$. 2.NBT.7, 2.OA.1
39. B. The clock shows 1:23. $23 + 30 = 53$. 30 minutes after 1:23 is 1:53. 3.MD.1
40. Part A: A. Three parts are known, and the total is unknown.
Part B: D. $437 + 142 + 171 = 750$. 2.NBT.7, 2.OA.1
41. B. To find the height, add $12 + 12 + 12 + 12 + 12 + 12 + 12 + 12 = 96$ inches. To find the width, add $12 + 12 + 12 = 36$ inches. 2.MD.2
42. C. A square pyramid has 1 square face and 4 triangular faces. 2.G.1
43. C. 7 rows of 8 make 56: $7 \times 8 = 56$. 3.OA.7
44. B. The model shows 1 hundred flat and 5 ten rods, or 150. 2.NBT.1.a, 2.NBT.1.b
45. D. A parallelogram has 2 pairs of parallel sides. 3.G.1
46. C. $\frac{3}{8} > \frac{1}{8}$ and $\frac{3}{8} > \frac{2}{8}$. When the denominators are the same, the fraction with the greater numerator is greater. 3.NF.3.d
47. B. $32 \div 4 = 8$. It will take her 8 days. 3.OA.2
48. A. A hexagon has 6 sides. 2.G.1