

# Tennessee Comprehensive Assessment Program

# TCAP

## Math Grade 3 Item Release





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# Metadata Interpretation Guide - Math

## Item Information

|                     |  |              |   |
|---------------------|--|--------------|---|
| Item Code:          | TN092317   | Grade Level: | 3 |
| Standard Code:      | 3.OA.A.2   | Position No: | 1 |
| Standard Text:      | Interpret the dividend, divisor, and quotient in whole number division equations (e.g., $28 \div 7$ can be interpreted as 28 objects divided into 7 equal groups with 4 objects in each group or 28 objects divided so there are 7 objects in each of the 4 equal groups). |              |   |
| Reporting Category: | 1: Computation with Whole Numbers  |              |   |
| Calculator:         | Z  |              |   |
| Correct Answer:     | D  | DOK Level:   | 2 |
|                     |  | Item Type:   | O |

## Metadata Definitions

|  |  |
|--|--|
| <b>Item Code:</b> Unique letter/number code used to identify the item.   | <b>Grade Level:</b> Grade level or Course.   |
| <b>Standard Code:</b> Primary educational standard assessed.   | <b>Position No:</b> Position of the item in the PDF.   |
| <b>Standard Text:</b> Text of the educational standard assessed.   |  |
| <b>Reporting Category:</b> Text of the Reporting Category the standard assesses.   |  |
| <b>Calculator:</b> Indicates if usage of a calculator is allowed. Y = calculator is allowed, N = calculator is not allowed, Z = calculator may be allowed. |  |
| <b>Correct Answer:</b><br>Correct answer. This may be blank for constructed response items where students write or type their responses.                   | <b>DOK Level:</b> (if listed): Depth of Knowledge (cognitive complexity) is measured on a three-point scale.<br>1= Recall or simple reproduction of information;<br>2= Skills and concepts: comprehension and processing of text;<br>3= Strategic thinking, prediction, elaboration. |
|  | <b>Item Type:</b> Indicates administered usage.<br>O = Operational.  |

**Item Information**

Item Code: TN092317

Grade Level: 3

Standard Code: 3.OA.A.2

Position No: 1

Standard Text: Interpret the dividend, divisor, and quotient in whole number division equations (e.g.,  $28 \div 7$  can be interpreted as 28 objects divided into 7 equal groups with 4 objects in each group or 28 objects divided so there are 7 objects in each of the 4 equal groups).

Reporting Category: 1: Computation with Whole Numbers

Calculator: Z

Correct Answer: D

DOK Level: 2

Item Type: O

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Jorge has 27 seeds and 9 flower pots. He plants the same number of seeds in each flower pot.

Which expression shows how many seeds Jorge plants in each flower pot?

- A.**  $27 + 9$
- B.**  $27 - 9$
- C.**  $27 \times 9$
- D.**  $27 \div 9$

**Item Information**

Item Code: TN232792

Grade Level: 3

Standard Code: 3.OA.A.4

Position No: 2

Standard Text: Determine the unknown whole number in a multiplication or division equation relating three whole numbers within 100.

Reporting Category: 1: Computation with Whole Numbers

Calculator: N

Correct Answer: A

DOK Level: 1

Item Type: O

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Here is an equation.

$$9 \times ? = 54$$

What number makes the equation **true**?

- A.** 6
- B.** 5
- C.** 7
- D.** 9

---

**Item Information**

Item Code: TN982284

Grade Level: 3

Standard Code: 3.NBT.A.1

Position No: 3

Standard Text: Round whole numbers to the nearest 10 or 100 using understanding of place value.

Reporting Category: 1: Computation with Whole Numbers

Calculator: Z

Correct Answer: B

DOK Level: 2

Item Type: O

---

Here is a number rounded to the nearest 100.

600

Which of these could be the original number?

- A.** 527
- B.** 550
- C.** 650
- D.** 681

**Item Information**

Item Code: TN832521

Grade Level: 3

Standard Code: 3.NBT.A.3

Position No: 4

Standard Text: Multiply one-digit whole numbers by multiples of 10 in the range 10-90 (e.g.,  $9 \times 80$ ,  $5 \times 60$ ) using strategies based on place value and properties of operations.

Reporting Category: 1: Computation with Whole Numbers

Calculator: N

Correct Answer: A

DOK Level: 1

Item Type: O

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Which equation has the same missing number as  $70 \times 3 = \underline{\quad}$ ?

- A.**  $70 + 70 + 70 = \underline{\quad}$
- B.**  $30 + 30 + 30 = \underline{\quad}$
- C.**  $70 + 3 = \underline{\quad}$
- D.**  $7 \times 3 = \underline{\quad}$



**Item Information**

Item Code: TN592385

Grade Level: 3

Standard Code: 3.NF.A.1

Position No: 5

Standard Text: Understand a fraction,  $\frac{1}{b}$ , as the quantity formed by 1 part when a whole is partitioned into  $b$  equal parts (unit fraction); understand a fraction  $\frac{a}{b}$  as the quantity formed by  $a$  parts of size  $\frac{1}{b}$ .

Reporting Category: 2: Fractions

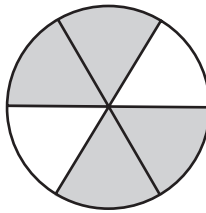
Calculator: Z

Correct Answer: A

DOK Level: 1

Item Type: O

This circle shows equal-sized parts.



What fraction of the circle is shaded?

- A.  $\frac{4}{6}$
- B.  $\frac{2}{4}$
- C.  $\frac{2}{6}$
- D.  $\frac{1}{4}$

**Item Information**

Item Code: TN302377

Grade Level: 3

Standard Code: 3.NF.A.3.b

Position No: 6

Standard Text: Recognize and generate simple equivalent fractions (e.g.,  $1/2 = 2/4$ ,  $4/6 = 2/3$ ) and explain why the fractions are equivalent using a visual fraction model.

Reporting Category: 2: Fractions

Calculator: N

Correct Answer: A,D

DOK Level: 1

Item Type: O

---

Which fractions are equivalent to  $\frac{2}{4}$ ? Choose the **two** correct answers.

- A.  $\frac{1}{2}$
- B.  $\frac{1}{3}$
- C.  $\frac{4}{6}$
- D.  $\frac{4}{8}$
- E.  $\frac{6}{8}$

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**Item Information**

Item Code: TN906048

Grade Level: 3

Standard Code: 3.OA.D.8

Position No: 7

Standard Text: Solve two-step contextual problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

Reporting Category: 3: Number Relationships and Patterns

Calculator: Z

Correct Answer: C

DOK Level: 2

Item Type: O

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Wilbur has 400 stickers.

- He gives 9 stickers each to 8 of his friends.
- He keeps the remaining stickers for himself.

Which is the **best** estimate of the number of stickers that Wilbur keeps for himself?

- A.** 40
- B.** 80
- C.** 330
- D.** 380

**Item Information**

Item Code: TN056093

Grade Level: 3

Standard Code: 3.OA.D.9

Position No: 8

Standard Text: Identify arithmetic patterns (including patterns in the addition and multiplication tables) and explain them using properties of operations.

Reporting Category: 3: Number Relationships and Patterns

Calculator: Z

Correct Answer: B

DOK Level: 2

Item Type: O

---

Here is a number pattern.

27, 36, 45, 54, 63, 72

The pattern continues.

Which expression could be used to find the next number in the pattern?

- A.**  $72 + 8$
- B.**  $72 + 9$
- C.**  $72 + 11$
- D.**  $72 + 27$

**Item Information**

Item Code: TN876078

Grade Level: 3

Standard Code: 3.OA.D.9

Position No: 9

Standard Text: Identify arithmetic patterns (including patterns in the addition and multiplication tables) and explain them using properties of operations.

Reporting Category: 3: Number Relationships and Patterns

Calculator: Z

Correct Answer: C

DOK Level: 2

Item Type: O

This part of a multiplication table shows patterns of numbers. One number is missing.

|    |    |    |    |
|----|----|----|----|
| 30 | 35 | 40 | 45 |
| 36 | 42 | 48 | 54 |
| 42 |    | 56 | 63 |
| 48 | 56 | 64 | 72 |

What number is missing from the patterns in the multiplication table?

- A.** 43
- B.** 48
- C.** 49
- D.** 50

**Item Information**

Item Code: TN072864

Grade Level: 3

Standard Code: 3.MD.A.1

Position No: 10

Standard Text: Tell and write time to the nearest minute and measure time intervals in minutes. Solve contextual problems involving addition and subtraction of time intervals in minutes.

Reporting Category: 4: Geometric and Measurement Concepts

Calculator: Z

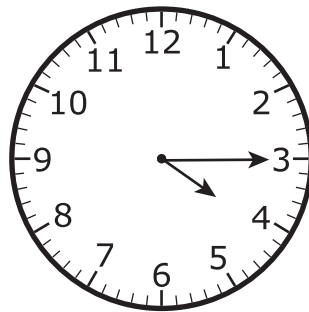
Correct Answer: D

DOK Level: 2

Item Type: O

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A game starts at the time shown on this clock.



The game ends 50 minutes after it starts.

At what time does the game end?

- A.** 4:50
- B.** 4:53
- C.** 5:01
- D.** 5:05

**Item Information**

Item Code: TN432498

Grade Level: 3

Standard Code: 3.MD.A.2

Position No: 11

Standard Text: Measure the mass of objects and liquid volume using standard units of grams (g), kilograms (kg), milliliters (ml), and liters (l). Estimate the mass of objects and liquid volume using benchmarks.

Reporting Category: 4: Geometric and Measurement Concepts

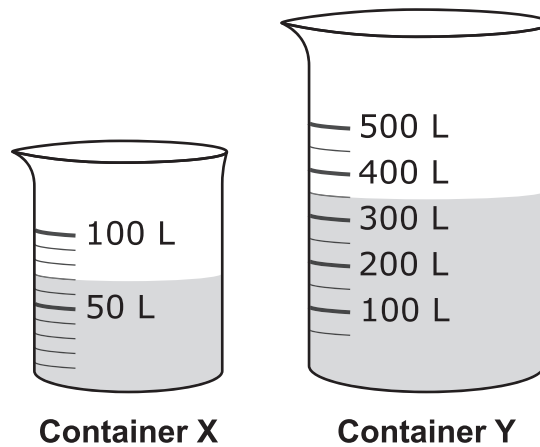
Calculator: Z

Correct Answer: A

DOK Level: 1

Item Type: O

The two containers shown have water in them.



How many **more** liters of water are in Container Y than are in Container X?






- A.** 280
- B.** 400
- C.** 420
- D.** 600

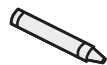
**Item Information**

|  |                 |
|--|-----------------|
| Item Code: TN562867  | Grade Level: 3  |
| Standard Code: 3.MD.B.3  | Position No: 12 |
| Standard Text: Draw a scaled pictograph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled graphs. |                 |
| Reporting Category: 4: Geometric and Measurement Concepts  |                 |
| Calculator: Z  |                 |
| Correct Answer: C  | DOK Level: 2    |
|  | Item Type: O    |

This pictograph shows the numbers of crayons of different colors that Malia has.

**Malia's Crayons**

| Color  | Number of Crayons   |
|--------|---|
| Blue   |    |
| Green  |  |
| Orange |  |
| Red    |  |
| Purple |  |

| Key   |             |
|---|-------------|
|  | = 4 crayons |

How many **fewer** purple crayons does Malia have than green crayons?

- A.** 3
- B.** 5
- C.** 12
- D.** 20



**Item Information**

Item Code: TN642319

Grade Level: 3

Standard Code: 3.MD.B.4

Position No: 13

Standard Text: Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units: whole numbers, halves, or quarters.

Reporting Category: 4: Geometric and Measurement Concepts

Calculator: Z

Correct Answer: D

DOK Level: 2

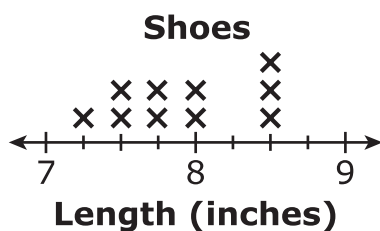
Item Type: O

Wesley measures the length of the shoes worn by each of ten friends. Here are the lengths, in inches (in).

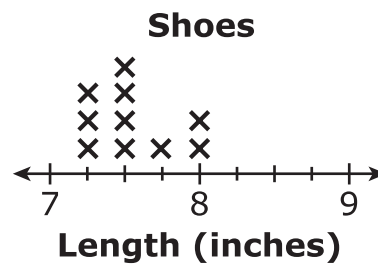
|                   |                   |                   |      |                   |
|-------------------|-------------------|-------------------|------|-------------------|
| $7\frac{1}{4}$ in | $8\frac{1}{2}$ in | $7\frac{3}{4}$ in | 8 in | $8\frac{1}{2}$ in |
| $7\frac{1}{2}$ in | $7\frac{1}{4}$ in | $7\frac{1}{2}$ in | 8 in | $7\frac{1}{4}$ in |

Which line plot shows the lengths of the shoes?

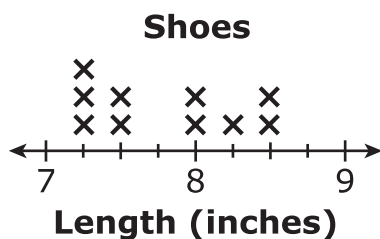
**A.**



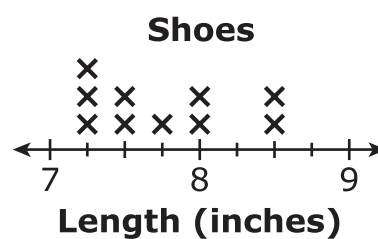
**C.**



**B.**



**D.**



**Item Information**

Item Code: TN002295

Grade Level: 3

Standard Code: 3.MD.C.7

Position No: 14

Standard Text: Relate area of rectangles to the operations of multiplication and addition.

Reporting Category: 4: Geometric and Measurement Concepts

Calculator: Z

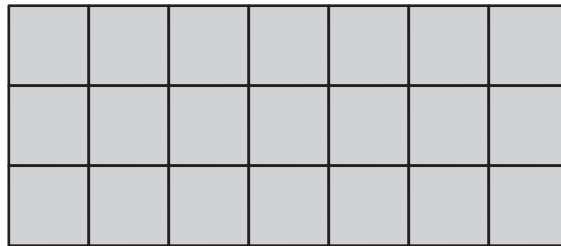
Correct Answer: D

DOK Level: 1

Item Type: O

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Unit squares are used to make this rectangle.



Which expression can be used to find the area, in square units, of the rectangle?

- A.**  $4 + 8$
- B.**  $4 \times 8$
- C.**  $3 + 7$
- D.**  $3 \times 7$

**Item Information**

Item Code: TN532714

Grade Level: 3

Standard Code: 3.MD.D.8

Position No: 15

Standard Text: Solve real-world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.

Reporting Category: 4: Geometric and Measurement Concepts

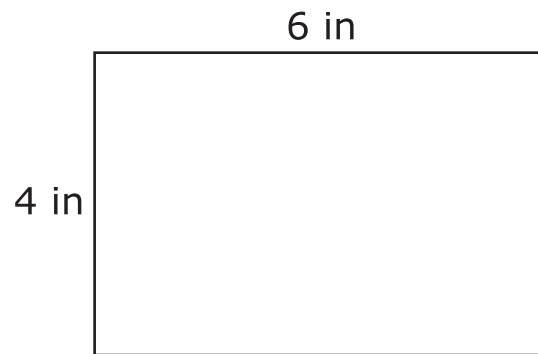
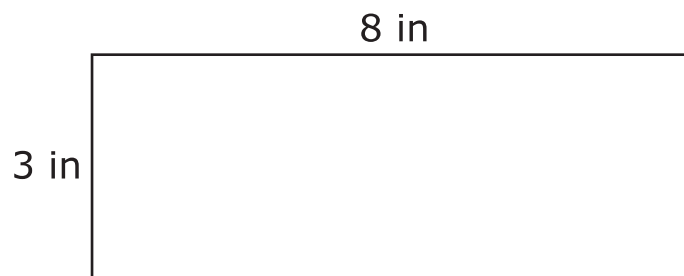
Calculator: Z

Correct Answer: A,C

DOK Level: 2

Item Type: O

Here are Ann's rectangle and Bill's rectangle.

**Ann's Rectangle****Bill's Rectangle**

Which statements about the figures are **true**? Choose the **two** correct answers.

- A.** Ann's Rectangle has a perimeter of 20 inches.
- B.** Bill's Rectangle has a perimeter of 24 inches.
- C.** Both rectangles have the same area.
- D.** Ann's Rectangle has a greater area than Bill's Rectangle.
- E.** Both rectangles have the same perimeter.

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Spring 2019

