# Grade 3

# Math

# ISTEP+ Part II

# Weight 70%

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# Message to Teachers

The PowerPoint Presentation is intended to help students to become familiar with online computer-type questions. There are five days of instructional materials that can be easily stretched to six or seven days upon the discretion of the teacher. This PowerPoint Presentation can be used as an whole-class instructional tool or in small group settings. The information is based upon standards by rating:

- ✓ Grade Level Standard Potentially on ISTEP+ Part II only
- * ✓ Grade Level Standard Potentially on ISTEP+ Parts I&II
- * ✓+ Very Important Grade Level Standard Potentially on ISTEP+ Parts I&II
- ✓+ Very Important Grade Level Standard Potentially on ISTEP+ Part II only

# Grade 3 Math

Categories and Weight

ISTEP+

| | |
|---|---|
| • Number Sense | 9-19% |
| • Computation | 9-19% |
| • Algebraic Thinking & Data Analysis | 23-33% |
| • Geometry & Measurement | 25-35% |
| • Mathematical Process | 9-19% |

# Question Types on ISTEP+…… Part II

ISTEP+ Part II has a variety of question types. The samples that are provided in this document will illustrate the different forms or types of problems that you will see on ISTEP+ Part II.

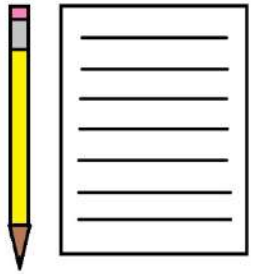
- **Multiple Choice**…….select the one correct answer from a choice of 4.
- **Technology Enhanced**……select multiple right answers from a list of 5-7 choices.
- **Short Answer**……answer must be typed on the answer blank provided.
- **Drag and Drop**…….possible answers are in a menu…….drag and drop answer choices with a mouse to a certain location.

# Directions:

- The problems that follow will be similar to the types of questions on the online version of ISTEP+.

- Many of the problems will require some pencil/paper work to find the answer.

  So….have a pencil and paper handy.



# Number Sense

**9-19%**

# Day 1

✓ **3.NS.3**

Understand a fraction, 1/b, as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction, a/b, as the quantity formed by *a* parts of size 1/b. [*In grade 3, limit denominators of fractions to 2, 3, 4, 6, 8*.]

✓ **3.NS.4**

Represent a fraction, 1/b, on a number line by defining the interval from 0 to 1 as the whole, and partitioning it into b equal parts. Recognize that each part has size 1/b and that the endpoint of the part based at 0 locates the number 1/b on the number line.

✓ **3.NS.5**

Represent a fraction, a/b, on a number line by marking off lengths 1/b from 0. Recognize that the resulting interval has size a/b, and that its endpoint locates the number a/b on the number line.

✓+ **3.NS.7**

Recognize and generate simple equivalent fractions (e.g., 1/2 = 2/4, 4/6 = 2/3). Explain why the fractions are equivalent (e.g., by using a visual fraction model).

✓ **3.NS.8**

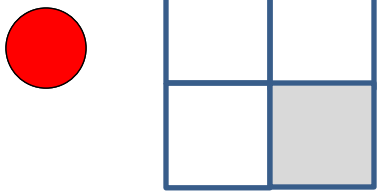
Compare two fractions with the same numerator or the same denominator by reasoning about their size based on the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions (e.g., by using a visual fraction model).

# ✓ 3.NS.3

Each model equals one whole divided into equal parts.

Which models show $\frac{1}{4}$ shaded?

Select the **three** correct answers.



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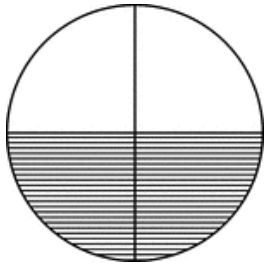
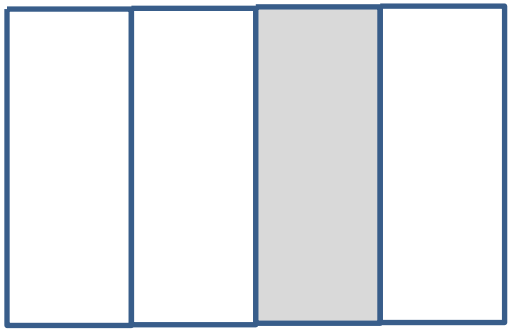
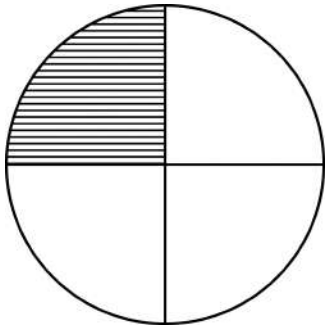
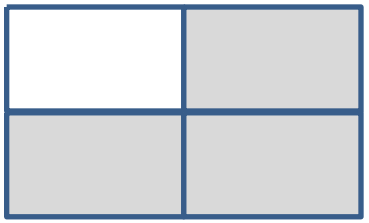




D



E



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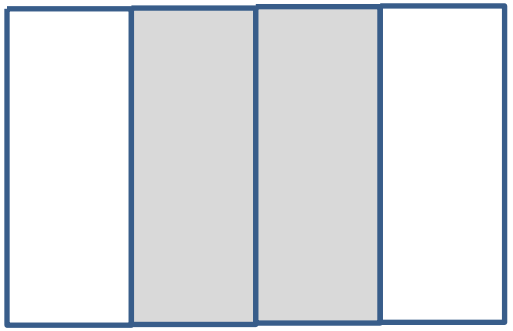
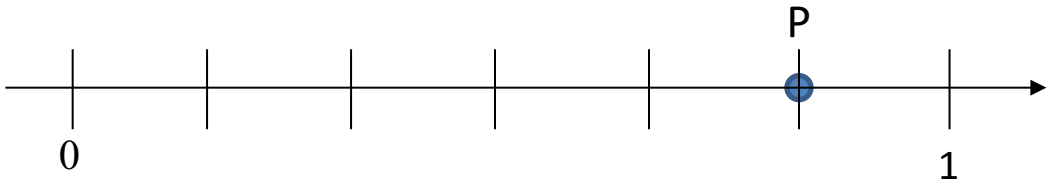


# ✓ 3.NS.4

Sally placed point **P** on the number line.

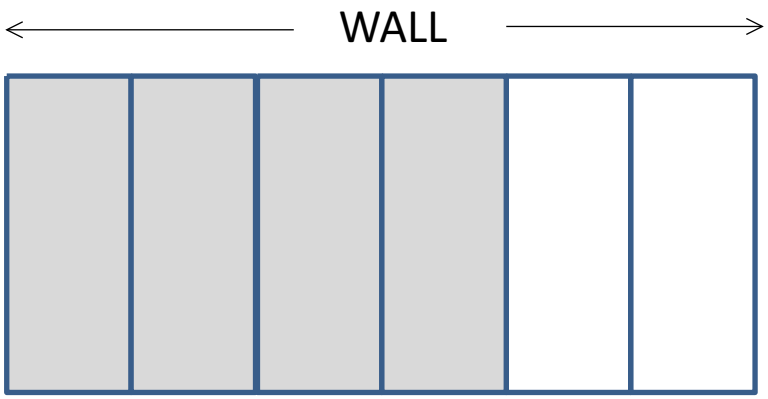



Give the value of P as a fraction.
Write the answer on the blank.

Answer $\frac{5}{6}$

# ✓ 3.NS.5

The artist starts painting the wall.
The parts of the wall that look white are not painted yet.




Which statements about the wall are correct?
Select the **two** correct statements.

A Each painted part is $\frac{1}{4}$ of the whole wall.

B Each painted part is $\frac{1}{6}$ of the whole wall.

C Each painted part is $\frac{4}{4}$ of the whole wall.

D The fraction of the wall not yet painted is $\frac{1}{6}$.

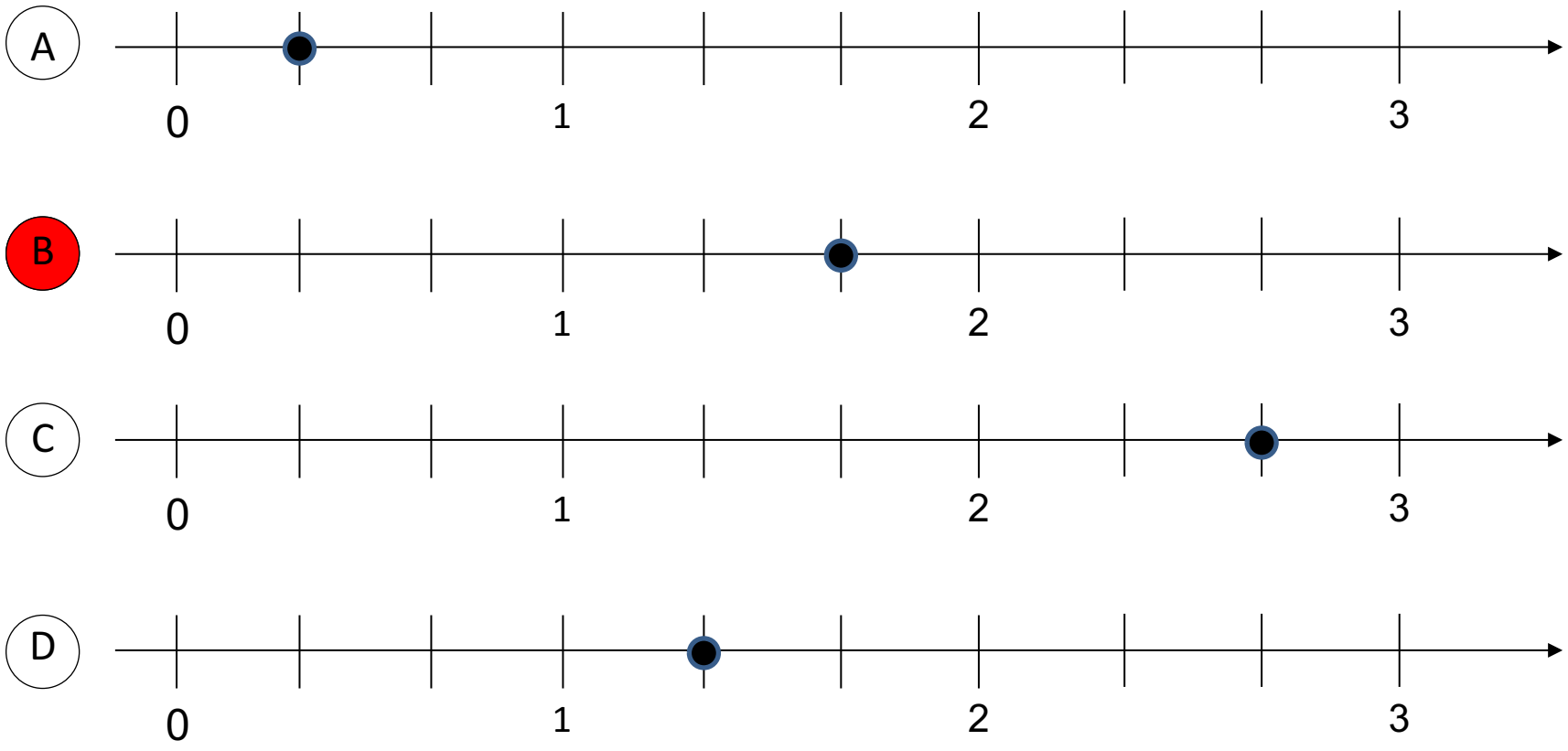
E The fraction of the wall not yet painted is $\frac{2}{4}$.

F The fraction of the wall not yet painted is $\frac{2}{6}$.

# ✓ 3.NS.5

Which number line shows the correct location of the number $\frac{5}{3}$?

Darken the correct letter choice.



# ✓+ 3.NS.7

Which fraction is equivalent to $\frac{1}{2}$?

Darken the correct letter choice

A $\frac{2}{1}$

B $\frac{3}{6}$

C $\frac{2}{5}$

D $\frac{6}{3}$

# ✓+ 3.NS.7

Which fractions are equivalent to $\frac{1}{2}$?

Select the **three** answer.

A $\frac{3}{8}$

$\frac{4}{8}$

C $\frac{5}{8}$

D $\frac{6}{3}$

E $\frac{3}{6}$

F $\frac{3}{10}$

G $\frac{2}{4}$

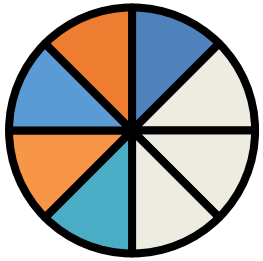
H $\frac{4}{2}$

# ✓+ 3.NS.7

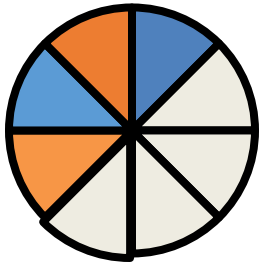
Which shaded parts show $\frac{3}{4}$ in the whole circle. The gray sections are shaded.

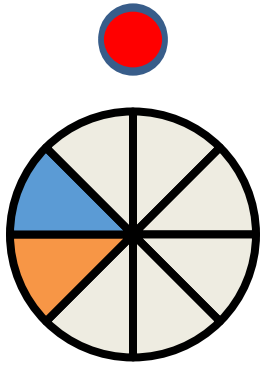
Select the correct letter choice.

A

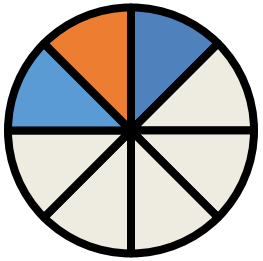


B





D



## ✓+ 3.NS.7

**Drag and drop** the correct fraction to the answer blank from the Selection Menu that makes each statement true.
Not all the fractions in the Selection Menu will be used.

1. $\frac{4}{6}$ < _____

2. $\frac{4}{6}$ = _____

3. $\frac{3}{8}$ > _____

4. $\frac{2}{4}$ = _____

Selection Menu

$\frac{1}{2}$ $\frac{1}{4}$

$\frac{5}{6}$ $\frac{5}{8}$

$\frac{3}{8}$ $\frac{2}{3}$

## ✓ 3.NS.8

Fill each ◯ with one of the symbols **<** or **>** that compares the two fractions correctly.

$\frac{3}{6}$ ( < ) $\frac{5}{6}$

$\frac{3}{4}$ ( > ) $\frac{3}{8}$

# COMPUTATION

**9-19%**

✓+ **3.C.1**

Add and subtract whole numbers fluently within 1000.

✓+ **3.C.2**

Represent the concept of multiplication of whole numbers with the following models: equal-sized groups, arrays, area models, and equal "jumps" on a number line.
Understand the properties of 0 and 1 in multiplication.

✓+ **3.C.5**

Multiply and divide within 100 using strategies, such as the relationship between multiplication and division (e.g., knowing that 8 x 5 = 40, one knows 40 ÷ 5 = 8), or properties of operations.

✓+ **3.C.6**

Demonstrate fluency with multiplication facts and corresponding division facts of 0 to 10.

# Day 2

✓+ 3.C.1

Solve:

$$\begin{array}{r} 128 \\ +\ 439 \\ \hline \end{array}$$

A 557 B 577 C 587 D 567

✓+ 3.C.1

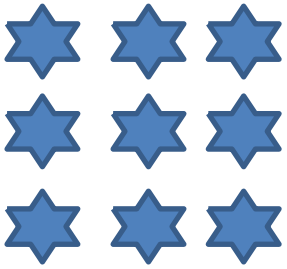
Solve:

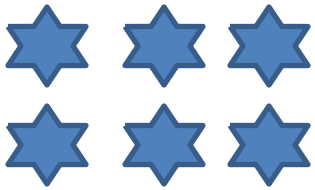
$$\begin{array}{r} 532 \\ -\ 439 \\ \hline \end{array}$$

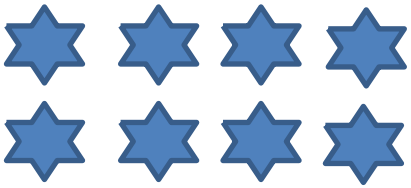
A 83 B 93 C 103 D 113

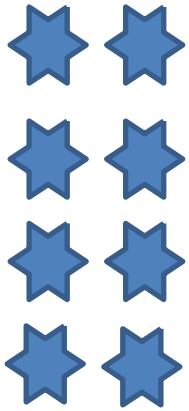
✓+ 3.C.2

Which shows 2 x 3 correctly? Darken the correct letter choice.

A 

B 

C 

D 

✓+ 3.C.2

Which statement is true? Darken the correct letter choice.

A $100 \div 1 = 100$

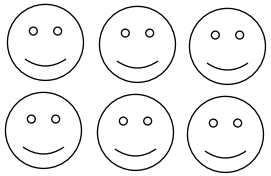
B $1 \div 100 = 100$

C $100 \div 1 = 0$

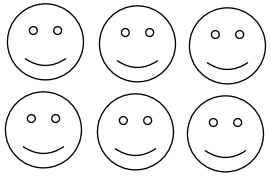
D $100 \div 100 = 0$

# ✓+ 3.C.2

Which <u>two</u> statements are correct?
Darken the correct letter choices.

A 6 = 

B 18 = 17 x 1

C 5 = 

D 0 = 9 x 0

E 18 ÷ 18 = 0

✓+ 3.C.5

Jamie bought 24 light bulbs. The light bulbs come in packs of 4.
How may packs of the light bulbs did Jamie buy?
Enter your answer on the blank below.

Answer 6

✓+ 3.C.6

Which statements below are true?
Select the **three** answers.

A 7 x 9 = 63

B 48 ÷ 8 = 6

C 4 x 9 = 38

D 30 ÷ 5 = 8

E 42 ÷ 7 = 6

✓+ 3.C.5

Connie solved the math problem shown.

**40 ÷ 8 = ?**

Which equation can Connie use to check her answer?
Darken the correct letter choice.

A 8 + ? = 40

B 40 + 8 = ?

C 8 x ? = 40

D 8 x 40 = ?

## ✓+ 3.C.6

Which statements below are true?
Select the **three** answers.

A $9 \times 6 = 56$

$56 \div 8 = 7$

C $6 \times 4 = 34$

$4 \times 8 = 32$

E $49 \div 7 = 7$

✓+ 3.C.6

Which statement is **not** true? Darken the correct letter choice.

A $21 = 3 \times 7$

B $81 \div 9 = 9$

C $6 = 36 \div 6$

D $8 = 72 \div 8$

✓+ 3.C.6

Which statements below are true?
Select the **three** answers.

A $7 \div 7 = 0$

$3 \times 4 = 12$

C $10 \div 5 = 5$

$16 \div 2 = 8$

E $0 \times 6 = 0$

✓+ 3.C.6

**Drag and drop left** each equation that is true when the ☐ is replace with **4**. The Selection Menu shows possible equations. Not all the equations in the Selection Menu will be used.

Equations are true when ☐ = **4**

Selection Menu

32 ÷ ☐ = 8

4 X 4 = ☐

3 X ☐ = 27

☐ ÷ 2 = 2

✓+ 3.C.6

Which statement is **not** true? Darken the correct letter choice.

A $21 = 3 \times 7$

B $81 \div 9 = 9$

C $6 = 36 \div 6$

D $8 = 72 \div 8$

# Algebra Functions
# &
# Data Analysis

**23-33%**

*✓+ **3.AT.1**

Solve real-world problems involving addition and subtraction of whole numbers within 1000 (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem).

*✓+ **3.AT.2**

Solve real-world problems involving whole number multiplication and division within 100 in situations involving equal groups, arrays, and measurement quantities (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem)

*✓+ **3.AT.3**

Solve two-step real-world problems using the four operations of addition, subtraction, multiplication and division (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem).

✓ **3.AT.5**

Determine the unknown whole number in a multiplication or division equation relating three whole numbers.

*✓ **3.DA.1**

Create scaled picture graphs, scaled bar graphs, and frequency tables to represent a data set —including data collected through observations, surveys, and experiments—with several categories. Solve one- and two-step “how many more” and “how many less” problems regarding the data and make predictions based on the data.

# Day 3

# *✓+ 3.AT.3

Mr. Harvey has a total of 148 balloons. He has 112 white balloons and an equal number of red, green, blue, and yellow balloons.

How many red balloons does Mr. Harvey have?
Place your answer on the blank below.

Answer 9 red balloons

# *✓+ 3.AT.1

The table shows the number of pennies Nolan saved each week for four weeks.

| Pennies Saved | |
|---|---|
| **Weeks** | Number of Pennies |
| **Week 1** | 18 |
| **Week 2** | 40 |
| **Week 3** | 32 |
| **Week 4** | 25 |

What is the total number of pennies Nolan saved during the four weeks? Darken the correct letter choice.

A 105

B 115

C 95

D 100

# *✓+ 3.AT.1

The first day, Paul starts with 744 stamps. He buys 27 stamps from his friend. He then sells 139 stamps. What is the total number of stamps that Paul has after the first day of the stamp show? Darken the correct letter choice.

A 622

B 642

C 612

D 632

## *✓+ 3.AT.3

Carol plays a ball game. She gets 7 points each time her ball hits a target. If she hits the target at least 5 times in a row, she gets an extra 25 points.

What is the total number of points Carol gets if she hits the target 5 times in a row?
Place your answer on the blank below.

Answer 60 _____points

# *✓+ 3.AT.2

Which **three** statements can be represented by the expression 24 ÷ 4 ?
Select the **three** answers.

A Jake makes 24 muffins. He gives away 4 muffins.

Collin has 24 toy trucks. He sorts them into groups of 4 trucks each.

Amira has 24 trading cards. She puts them into piles containing 4 cards each.

D Rosemary puts 24 stickers in each book. She uses enough stickers to fill 4 books.

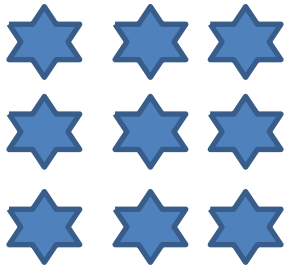
E Steven fills a new bookshelf with 24 books. He puts the same number of books on each of the 4 shelves.

# *✓+ 3.AT.2

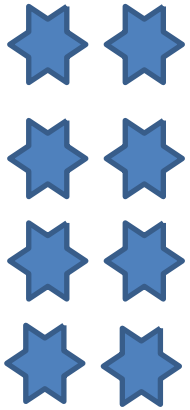
Mary has 3 bags of cookies with 3 cookies in each bag.
Which picture shows how many cookies Mary has in all?

Darken the correct letter choice.

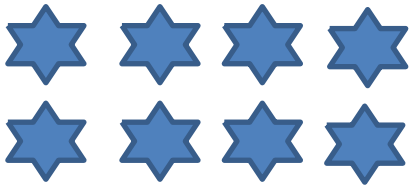
A



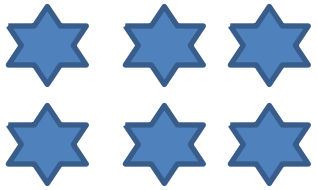
B



C



D



# *✓+ 3.AT.3

Linda puts 3 cookies in each of 4 packages.
Which **two** expressions show this correctly?

Darken the correct letter choices.

A 3 + 4

B 4 + 3

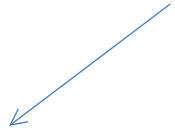
C 3 x 4

D 3 + 3 + 3 + 3

4 + 4 + 4 + 4

## ✓ 3.AT.5

Find the missing number.



☐ x 7 = 56

Answer 8

# *✓+ 3.AT.2

Josh has 32 marbles. He wants to divide them evenly into 8 bags. How many marbles will be in each bag?

Darken the correct letter choice.

A 8 marbles

B 6 marbles

C 5 marbles

D 4 marbles

# *✓ 3.DA.1

Kimmy asked the students in her class to vote for their favorite ice cream flavor, and then she made this picture graph.

| Flavor | Number of Votes |
|---|---|
| Chocolate |  |
| Vanilla |  |
| Strawberry |  |
| Cookie Dough |  |
| Mint Chocolate Chip |  |
| Other |  |

| Key |
|---|
|  = 2 students |

How many **more** students voted for chocolate than cookie dough? Darken the correct letter choice.

A 1

B 3

C $6\frac{1}{2}$

D 7

# ✓ 3.AT.5

Which **two** problems have an answer of **3** for the unknown number? Darken the correct letter choices.

A $12 + 3 - 13 = \square$

B $12 \div 4 = \square$

C $3 \times 0 = \square$

● $\square \times 5 = 15$

E $24 \div 3 = \square$

## *✓+ 3.AT.3

A total of 42 cookies are to be put into boxes for a holiday gift for charity. Each box holds 6 cookies.

How many boxes will be needed for the 42 cookies? Place your answer in the blank below.

Answer 7 boxes

# ✓ 3.AT.5

Which **two** problems have an answer of 8 for the unknown number? Darken the correct letter choices.

A $32 \div 4 = \square$

B $48 \div 8 = \square$

C $40 \div \square = 8$

D $\square \times 7 = 42$

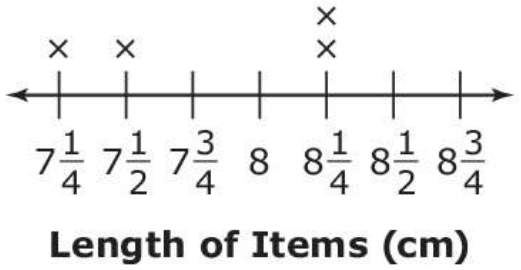
$72 \div \square = 9$

# *✓ 3.DA.1

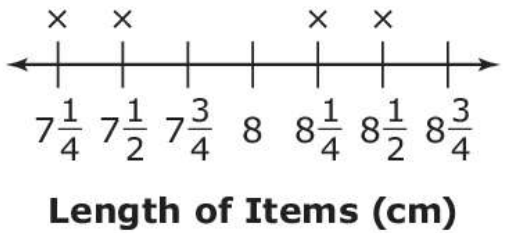
Melissa measured the lengths of different objects she found in her room. The table below shows the length, in centimeters, of each object she measured.

Which line plot shows the data correctly? Darken the correct letter choice.

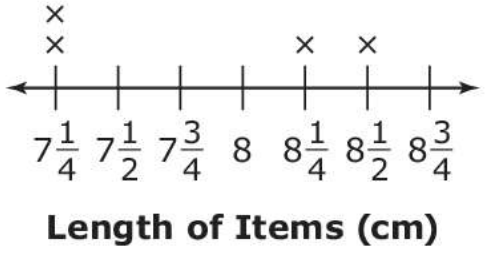
A




B

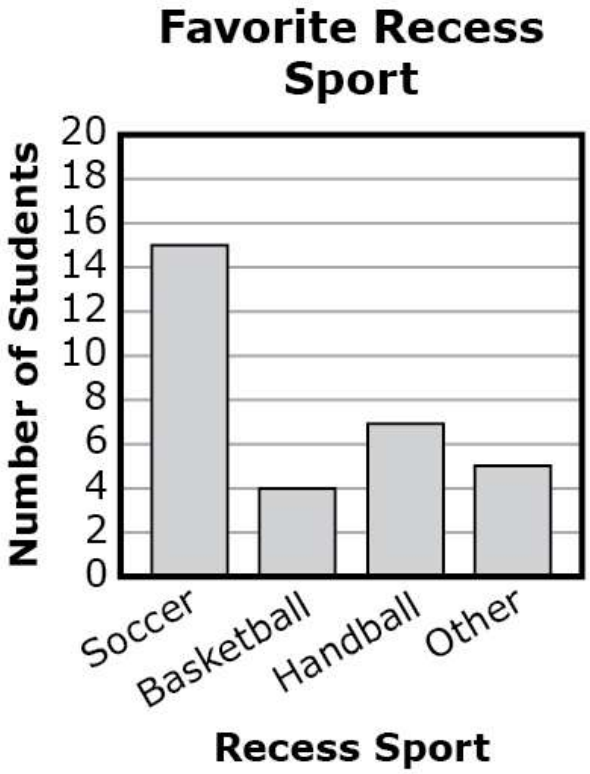



C



# *✓ 3.DA.1

Lisa asked the students in her class which sports they like to play during recess. She made this graph.




How many **more** students like to play soccer than basketball? Darken the correct letter choice.

A 15

B 11

C 10

D 5

# Geometry
# &
# Measurement

**25-35%**

*✓ **3.M.1**

Estimate and measure the mass of objects in grams (g) and kilograms (kg) and the volume of objects in quarts (qt), gallons (gal), and liters (l). Add, subtract, multiply, or divide to solve one-step real-world problems involving masses or volumes that are given in the same units (e.g., by using drawings, such as a beaker with a measurement scale, to represent the problem).

*✓+ **3.M.3**

Tell and write time to the nearest minute from analog clocks, using a.m. and p.m., and measure time intervals in minutes. Solve real-world problems involving addition and subtraction of time intervals in minutes.

✓ **3.M.4**

Find the value of any collection of coins and bills. Write amounts less than a dollar using the ¢ symbol and write larger amounts using the $ symbol in the form of dollars and cents (e.g., $4.59). Solve real-world problems to determine whether there is enough money to make a purchase.

*✓ **3.M.5**

Find the area of a rectangle with whole-number side lengths by modeling with unit squares, and show that the area is the same as would be found by multiplying the side lengths. Identify and draw rectangles with the same perimeter and different areas or with the same area and different perimeters

*✓ **3.M.6**

Multiply side lengths to find areas of rectangles with whole-number side lengths to solve real-world problems and other mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.

*✓ **3.M.7**

Find perimeters of polygons given the side lengths or by finding an unknown side length.

# Day 4

# *✓ 3.M.1

How many **quarts** are in 5 gallons?
Darken the correct letter choice.

1 pint = 2 cups

1 quart = 2 pints

1 gallon = 4 quarts

A 5 quarts

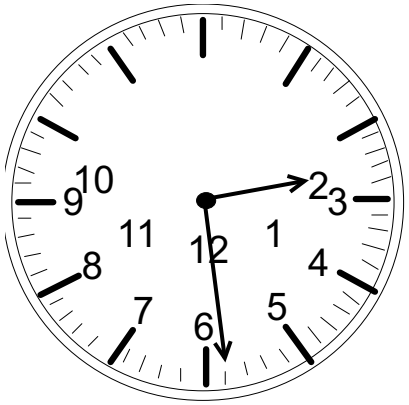
B 10 quarts

C 15 quarts

D 20 quarts

# *✓+ 3.M.3

What time is shown on the clock to nearest minute?
Darken the correct letter choice.




A 2:29

B 6:12

C 2:31

D 6:10

# ✓ 3.M.4

What is the total value of these coins shown? Darken the correct letter choice.


A 20¢

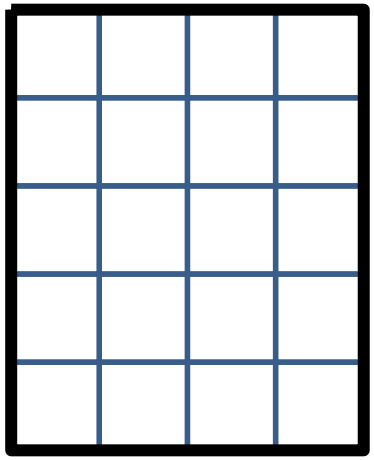
B 25¢

C 30¢

D 35¢

# *✓ 3.M.5

Find the area of the rectangle shown.
Darken the correct letter choice.



A 15 square units

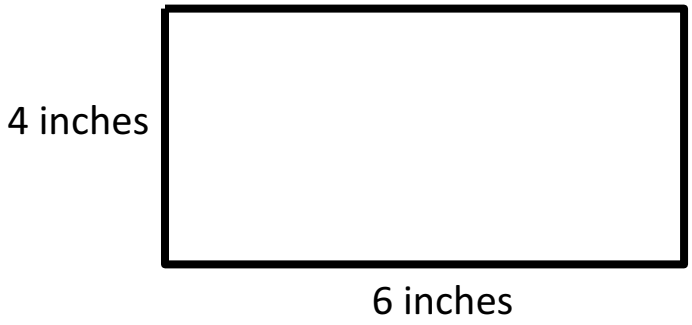
B 20 square units

C 25 square units

D 30 square units

# *✓ 3.M.6

What is the **area** of the rectangle?
Darken the correct letter choice.




A 10 inches

B 20 inches

C 24 square inches

D 48 square inches

# *✓ 3.M.7

What is the **perimeter** of the rectangle?
Darken the correct letter choice.


A 8 inches

B 16 inches

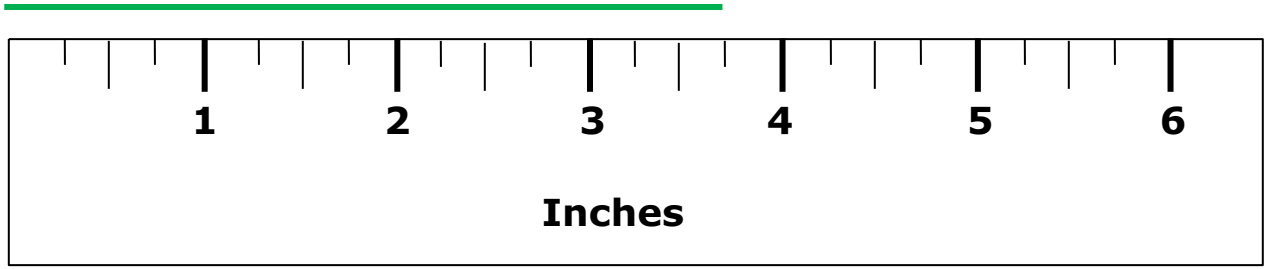
C 15 square inches

D 25 square inches

## ✓ 3.M.2

Measure the string to the nearest $\frac{1}{4}$ inch.

Darken the correct letter choice.




A 3 inches

B $3\frac{1}{4}$ inches

C $3\frac{1}{2}$ inches

D $3\frac{3}{4}$ inches

## *✓ 3.M.1

Mr. Lopez wants to bring lemonade for his 24 students on Friday. Which amount of lemonade would be reasonable for Mr. Lopez to bring for his students to drink? Darken the correct letter choice.

A About 2-3 quarts

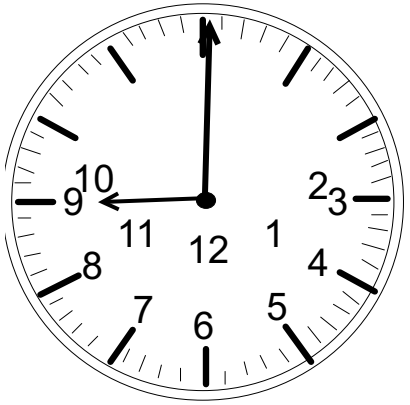
B About 2-3 gallons

C About 1 liter

D About 1-2 liters

# *✓+ 3.M.3

Steve's school starts at 9:00 in the morning. It takes Steve 45 minutes to walk to school and get to his class on time.
What time should Steve leave for school to be on time?
**Place your answer on the answer blank below**.




Answer_____8:15_____

# ✓ 3.M.4

Find the value of the money shown.
Darken the correct letter choice.



(A) $1.25

(B) $1.30

(C) $1.35

(D) $1.40

# ✓ 3.M.4

Libby has coins and bills in her purse as shown.

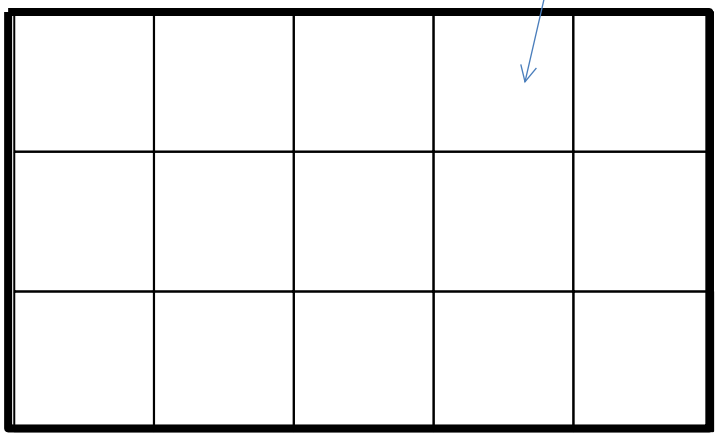


Libby wants to buy a new pen for school.
Does Libby have enough money to buy the pen?


Answer : YES or NO

# *✓ 3.M.5

Find the area of the rectangle. Each small square is 1 square unit. Place your answer on the answer blank.



Answer_____ 15 _____ square units

# *✓ 3.M.6

Which work is correct for finding the area of the rectangle? Darken the correct letter choice.


A 5 inches + 8 inches = 13 inches

B 5 + 8 + 5 + 8 = 26 inches

C 8 inches – 5 inches = 3 square inches

D 8 inches x 5 inches = 40 square inches

# *✓ 3.M.7

The **perimeter** of the rectangle is 22 inches.
What is the length of the missing side in inches?
Darken the correct letter choice.


A 4 inches

B 6 inches

C 7 inches

D 8 inches

✓ **3.G.1**

Identify and describe the following: cube, sphere, prism, pyramid, cone, and cylinder.

✓ **3.G.2**

Understand that shapes (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize and draw rhombuses, rectangles, and squares as examples of quadrilaterals. Recognize and draw examples of quadrilaterals that do not belong to any of these subcategories.

✓ **3.G.4**

Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole (1/2, 1/3, 1/4, 1/6, 1/8).

# Day 5

# ✓3.G.1

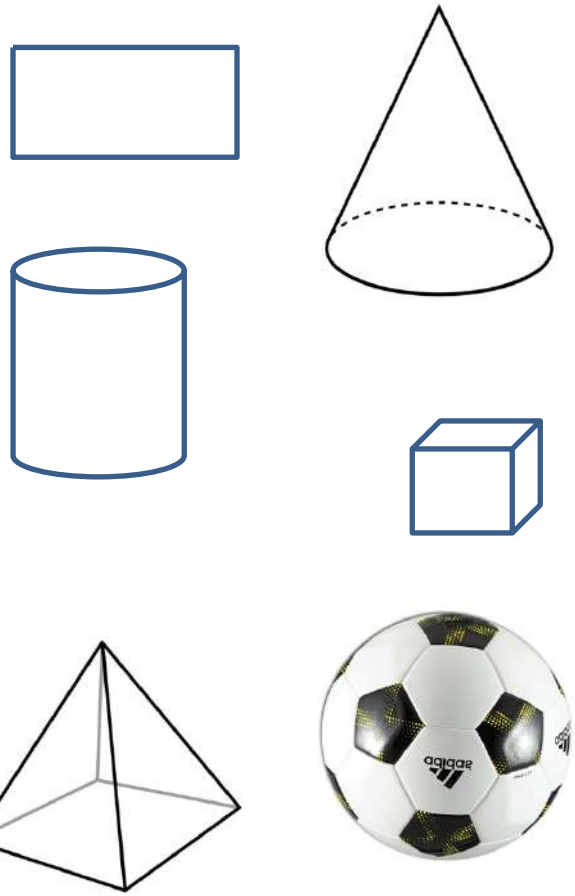
**Drag and drop** a shape from the Selection Menu to the correct answer blank for the word. Not all shapes will be used.

Cube _____

Sphere _____

Cylinder _____

Selection Menu

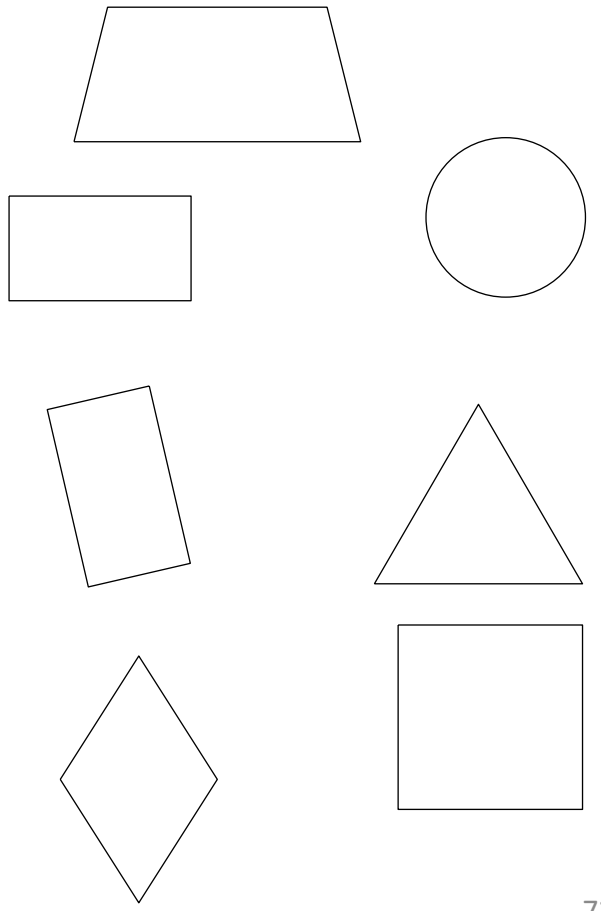


# ✓3.G.2

Which two shapes do not belong in this group?

**Drag and drop** two shapes from the Selection Menu to the correct answer blanks.

Selection Menu



Answers:

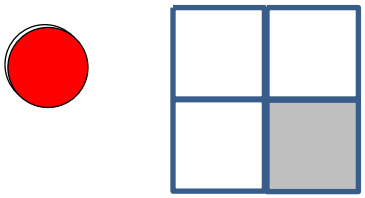
_____

_____

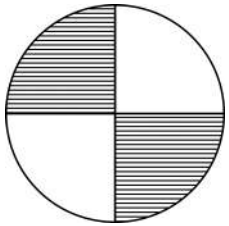
# ✓ 3.G.4

Each model equals one whole divided into equal parts.

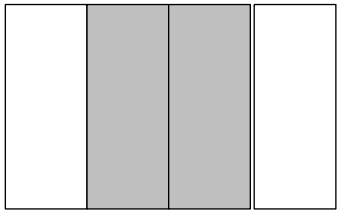
Which models show $\frac{1}{4}$ shaded. Select the **three** correct answers.

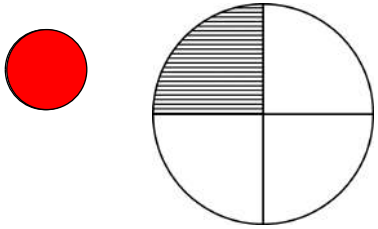


B

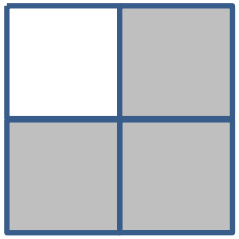


C

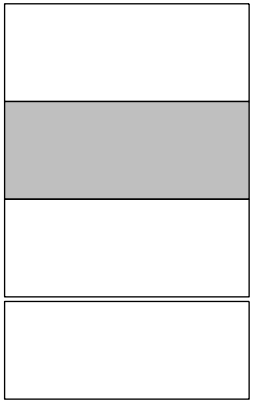




E



F



# ✓3.G.1

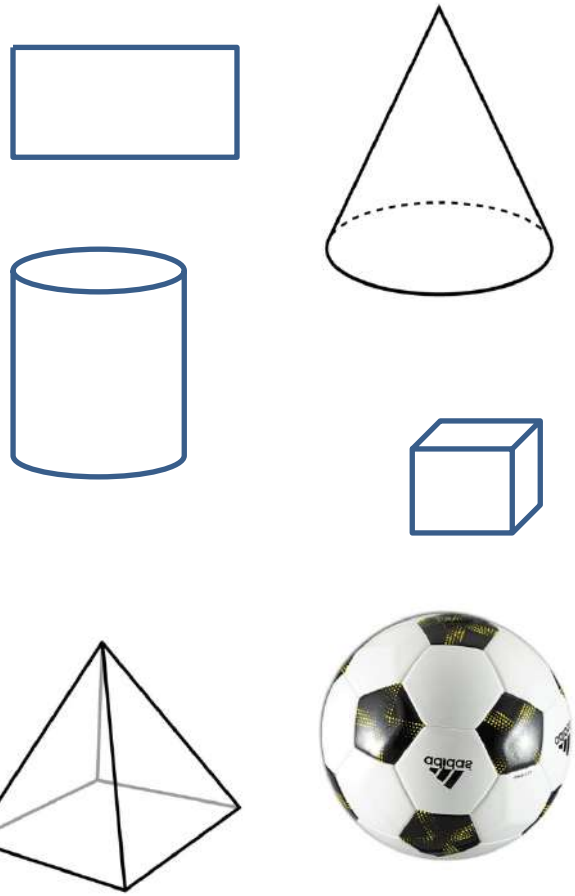
**Drag and drop** a shape from the Selection Menu to the correct answer blank for the word. Not all shapes will be used.

Pyramid _____

Cone _____

Cube _____

Selection Menu

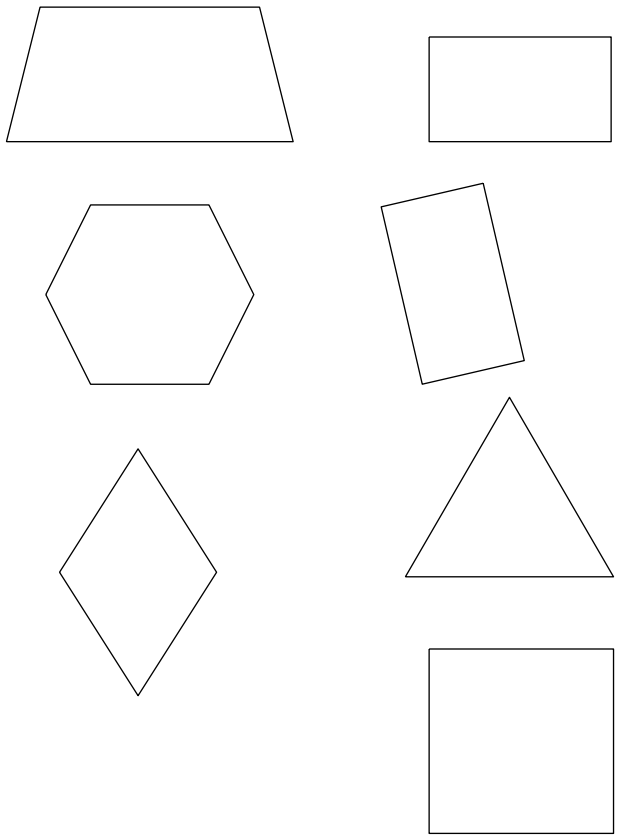


## ✓3.G.2

Which two shapes do not belong in this group?

**Drag and drop** two shapes from the Selection Menu to the correct answer blanks.

Selection Menu



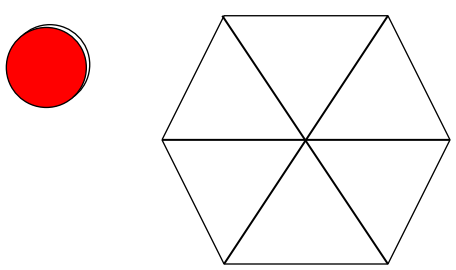
Answers:

_____

_____

# ✓ 3.G.4

Select the **two** shapes that have parts that are each $\frac{1}{6}$ of the area of the whole shape.



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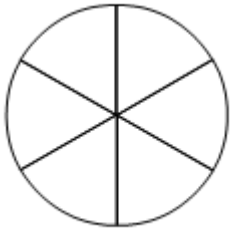

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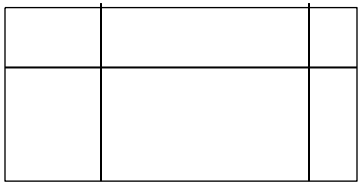
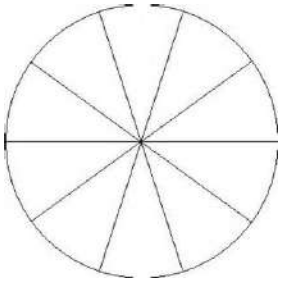


D



E