

Math Samplers

To familiarize students with the format of the provincial mathematics assessment

*The **PMA** (Primary Mathematics Assessment—**Grade 3**) comes first.*

*Please scroll down for the **EMA** (Elementary Mathematics Assessment—**Grade 6**)*



Primary Math

Assessment Sampler

Dear Teachers:

Enclosed are samples of questions similar to those students will experience in the Primary Mathematics Assessment. These questions may be used in your classroom to help students feel comfortable with the types of assessment formats they will experience. The sampler can also be used to describe effective assessment strategies with your students.

Assessment Strategies to Discuss With Students:

- Read each question carefully. You may have to read it more than once to understand what to do.
- Try every question even if you are not sure how to do it.
- Pictures, graphs, and charts give you information. Be sure to look at them carefully and think about the information in them.
- You may draw your own pictures to help you understand the question.
- For multiple choice questions, be sure to read all possible answers so that you can make the best choice. Shade in the circle beside the answer you choose. If you want to change your answer, make sure you erase your previous choice completely.
- For fill-in-the-blank questions, space is provided to work out answers. Be sure to put your answer in the blank.

Assessment Protocols:

The Primary Mathematics Assessment has guidelines that must be followed. Here are some key points to take into consideration when going over the questions in the sampler with your students.

- All math posters and charts on walls and desks (including multiplication table charts) are to be removed or covered.
- Students must be given an uninterrupted block of time to write the assessment.
- Students will be given one block of time to complete each day of the assessment. Students are not permitted to go back on Day 2 and change any answers from Day 1.
- Students are permitted to use the following manipulatives: base ten blocks, 2D geometric shapes, and 3D geometric figures.

Dictated Numbers / Math Facts

This Sampler does not include examples of Dictated Numbers or Math Facts questions; however, recording sheets similar to the ones students will use in the Primary Mathematics Assessment are provided at the front of the Sampler. These may be photocopied for practice.

- **Dictated Numbers** will be the first assessment activity. You will read a number up to 1000 and students will record the number.
- For the **Math Facts** section, you will read the question while showing it on an overhead/LCD/SMART board. Math Facts questions will include addition facts with sums to 18 and the corresponding subtraction facts.

All the Teacher's Guides of *Mental Math: Fact Learning, Mental Computation, Estimation* for Grades 1 to 6 are available on CD Rom in your school library. Consult this resource to identify appropriate activities to support student learning.

We hope these materials will provide a useful support to you and your students.

Part 1: Mental Math

Dictated Numbers

A.

B.

C.

D.

E.

F.

Math Facts

A.

B.

C.

D.

E.

F.

G.

H.

I.

J.

K.

L.

1.

Solve.

A. $6 + \square = 16$

B. $9 + \bigcirc = 18$

C. $\triangle - 7 = 13$

D. $\square - 4 = 15$

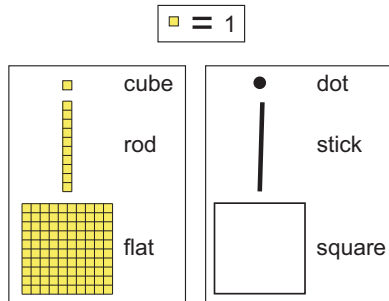
2.

What is the answer that means the same as the number 156 ?

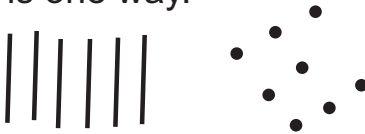

- 100 + 500 + 16
- 15 + 60
- 100 + 50 + 6
- 100 + 5 + 16

3.

Draw base-10 blocks to show each number in **two different ways**.
You can draw squares, sticks and dots. The first one is done for you.



Example:

This is one way.		68
This is another way.		68

A.

This is one way.	112
This is another way.	112

B.

This is one way.	230
This is another way.	230

4.

Mr. Jones goes to the post office to mail two parcels. It costs \$18 to mail one parcel and \$21 to mail the second parcel.

About how much money will he need to take to the post office to mail both parcels?

- \$10
- \$20
- \$30
- \$40

5.

Sally, Kim and Joe went apple picking. They each picked 7 apples. How many apples were picked?


You may use words, pictures and numbers to help you find the answer.

Answer:
They picked _____ apples.

6.

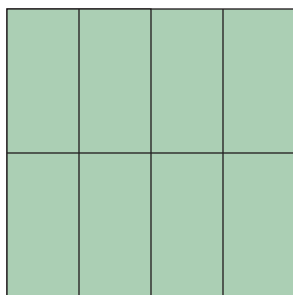
Choose the **words** that make the number sentences true.

Example: $4 + 5$	<input type="radio"/> is less than <input checked="" type="radio"/> is equal to <input type="radio"/> is greater than	$5 + 4$
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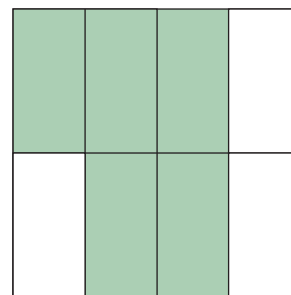
- A.**
- | | | |
|----------------|--|-------------|
| $5 + 6 + 2$ is | <input type="radio"/> is less than
<input type="radio"/> is equal to
<input type="radio"/> is greater than | $2 + 5 + 6$ |
|----------------|--|-------------|
- B.**
- | | | |
|---|--|-------|
|  | <input type="radio"/> is less than
<input type="radio"/> is equal to
<input type="radio"/> is greater than | 222 |
|---|--|-------|
- C.**
- | | | |
|-------|--|-------|
| 789 | <input type="radio"/> is less than
<input type="radio"/> is equal to
<input type="radio"/> is greater than | 897 |
|-------|--|-------|
- D.**
- | | | |
|---------------|--|--------------|
| 2 groups of 4 | <input type="radio"/> is less than
<input type="radio"/> is equal to
<input type="radio"/> is greater than | 2×4 |
|---------------|--|--------------|

7.

Write a fraction for each **shaded** part of each shape. In each box , use $<$, $>$, or $=$ to compare the shaded parts. The first one is done for you.

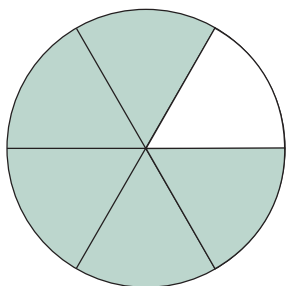


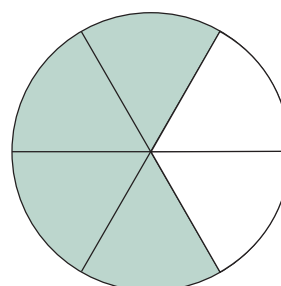
$$\frac{8}{8}$$

 $>$


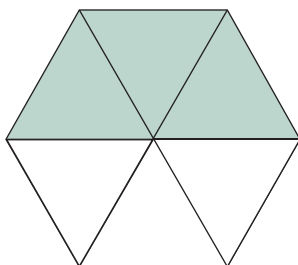
$$\frac{5}{8}$$

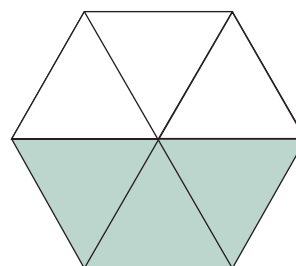
A.



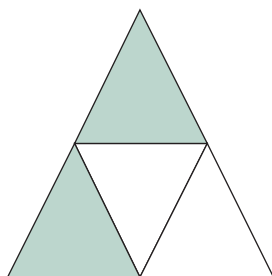


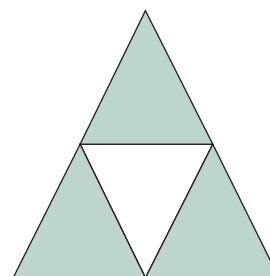
B.





C.





8.

The classroom's reading shelf has 25 books on it. Jack wants to share the books so he and his 4 friends have the same number of books. How many books would each child have?



You may use words, pictures and numbers to help you find the answer.

Answer:

Each child would have _____ books.

9.

Which group of numbers is in order from **least to greatest**?

- 237, 329, 210
- 321, 245, 238
- 402, 419, 597
- 564, 479, 592

10.

Look at this pattern.

364, 374, 384, 394, _____, _____, _____

Keep counting in this way. Which numbers come next?

- 384, 374, 364
- 400, 404, 414
- 404, 414, 424
- 3104, 3114, 3124

11.

Write a multiplication sentence for each picture.

A.



Answer _____

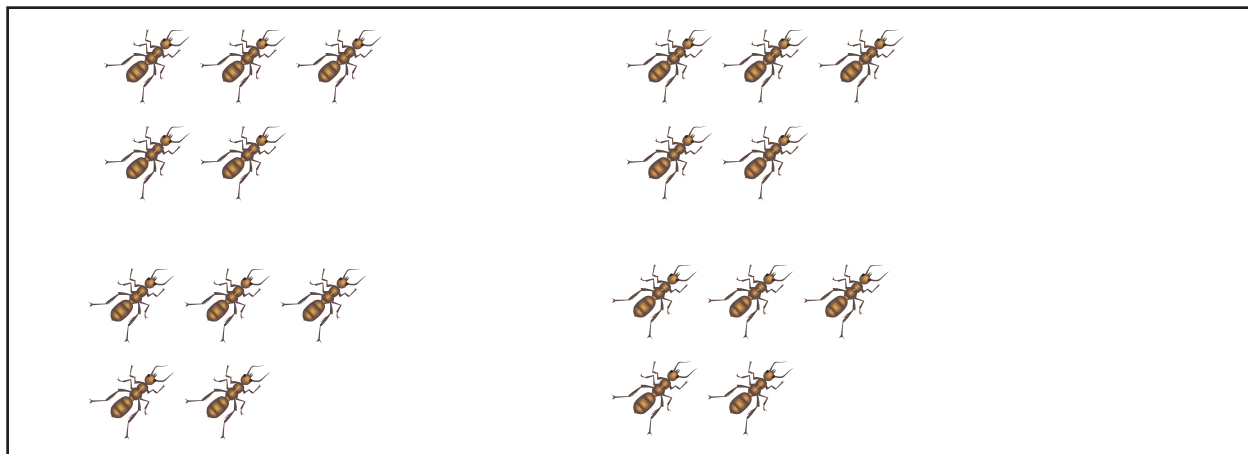
B.



Answer _____

12.

Complete the number sentences by looking at the picture.



A. $4 \times \square = 20$

B. $20 \div \square = 5$

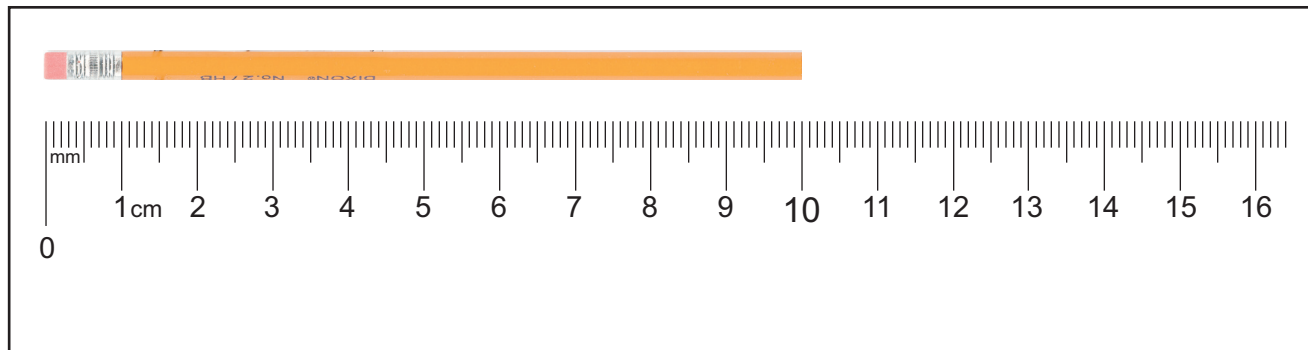
13.

There are 18 stickers shared equally among 3 children. How many stickers will each child get?

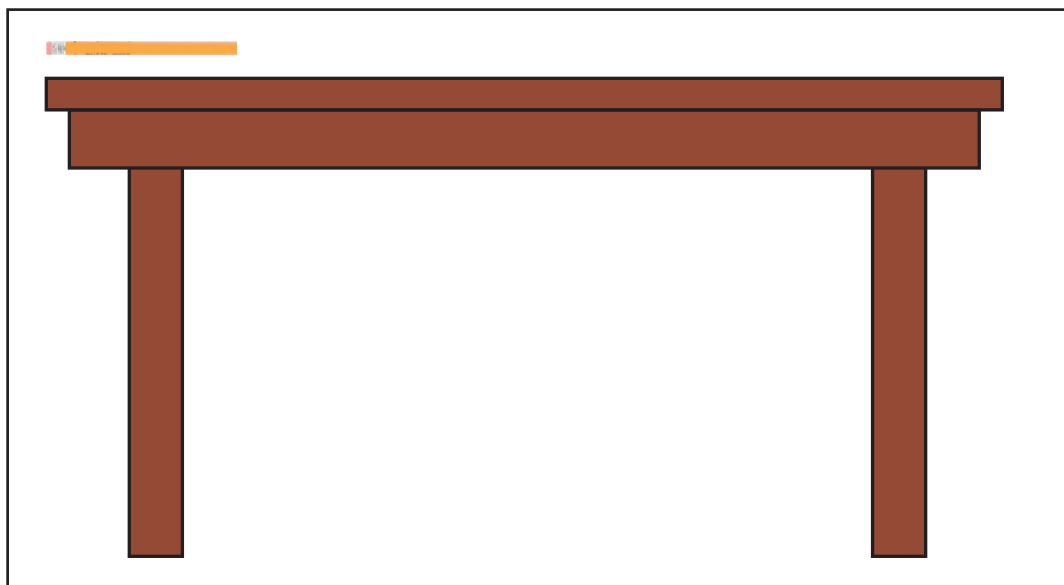
- 54
- 21
- 15
- 6

14.

Marie used her pencil to estimate the length of the table.
Her pencil is about 10 cm long.



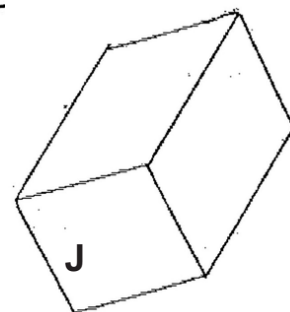
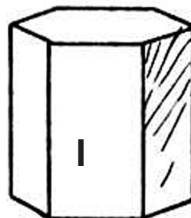
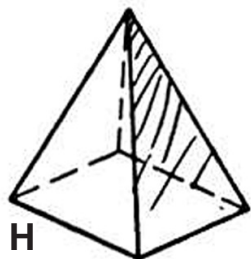
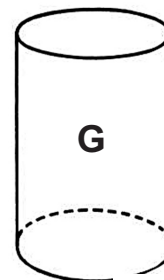
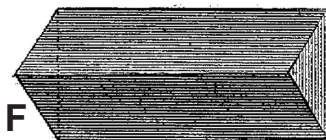
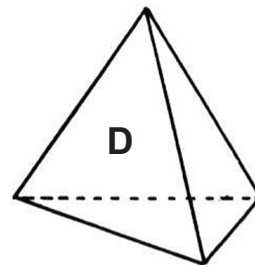
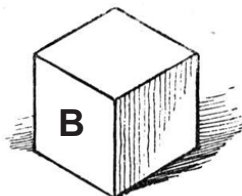
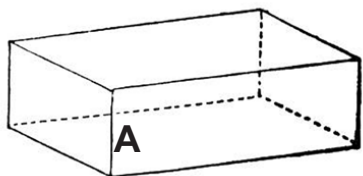
About how long is Marie's table?



- 25 cm
- 36 cm
- 50 cm
- 90 cm

15.

Sort these 3-D objects



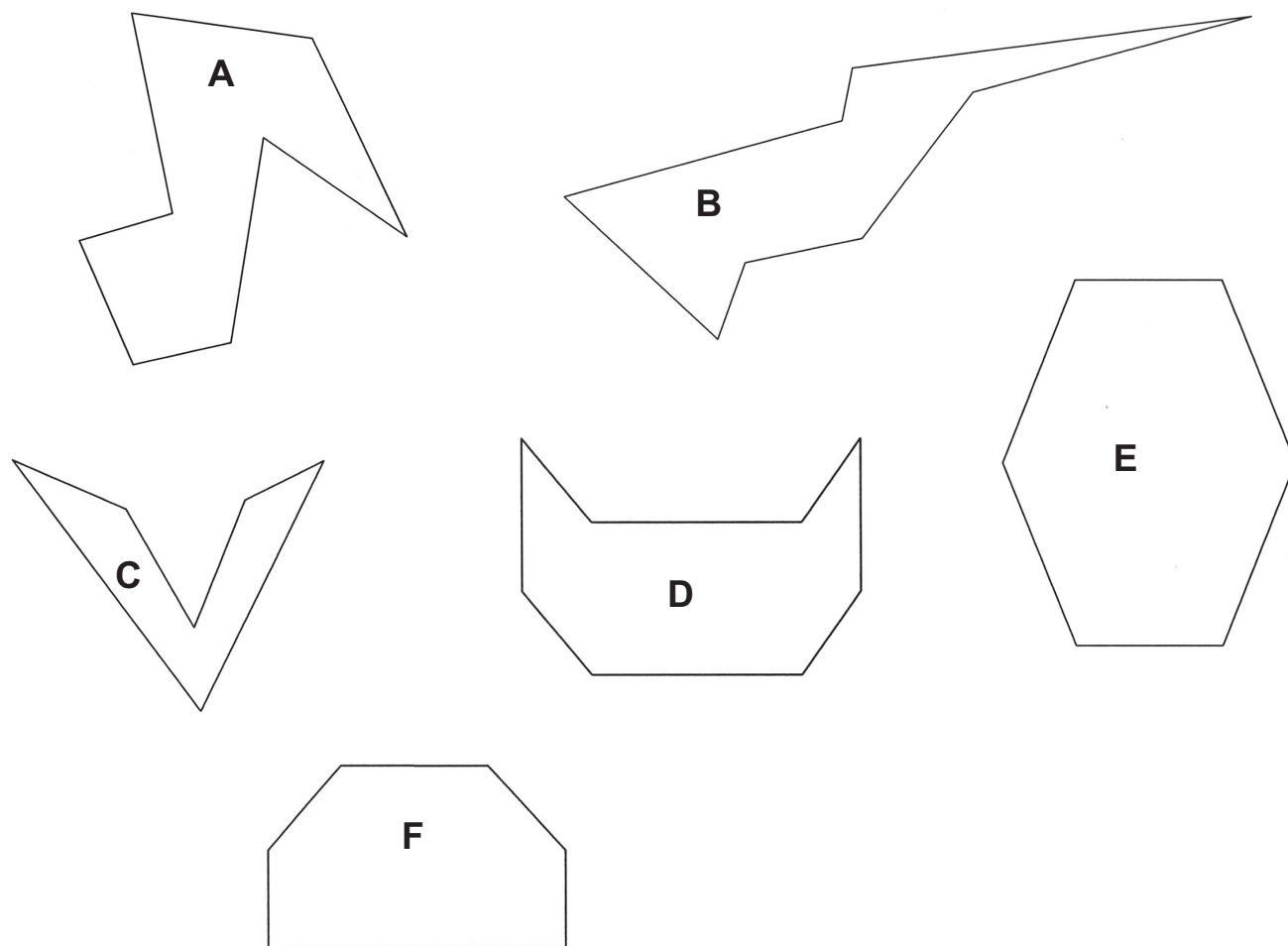
Use the letters to record your sorting.

Objects with 6 faces

Objects with 9 edges

16.

Sort these shapes



Use the letters to record your sorting.

6 vertices	8 vertices



Education and Early
Childhood Development

Elementary Mathematics



Assessment Samplar

Teachers,

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Assessments Strategies to Discuss With Students:

- Read each question carefully. You may have to read it more than once to understand what to do.
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- For multiple choice questions, be sure to read all possible answers so that you can make the best choice.
- Students must do their work and record their answers in Student Booklet.
- For fill-in-the-blank questions, space is provided to work out answers. Be sure to put your answer in the blank.

Math Facts

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For the **Math Facts** section, you will read the question while showing it on an overhead /LCD/SMART board. Students are not allowed to write down the question or any other marks to help solve the question. The Math Facts section is assessing the students' recall of multiplication and division Math Facts within three seconds.

Approved Adaptations

If a student requires adaptations to write the Elementary Math Assessment, please ensure that appropriate documentation is attached to the Student Booklet. The following adaptations are approved for the Elementary Math Assessment:

- Additional Time
- Verbatim Scribing
- Verbatim Reading
- Alternate Setting
- Assistive Technology
- Personal FM
- Foreign Language Dictionary

Permitted Materials

Students will be permitted to use the following materials:

- Protractor
- Metric Ruler
- Tracing Paper

Note: Calculators, multiplication charts, and wall charts are **NOT** permitted for the Elementary Math Assessment.

Math Facts

A.

G.

B.

H.

C.

I.

D.

J.

E.

K.

F.

1) Farmer Joe has an 11 m by 12 m yard that needs to be planted with grass seed. If 1 bag of grass seed covers 6m^2 of yard, how many bags will Farmer Joe need?



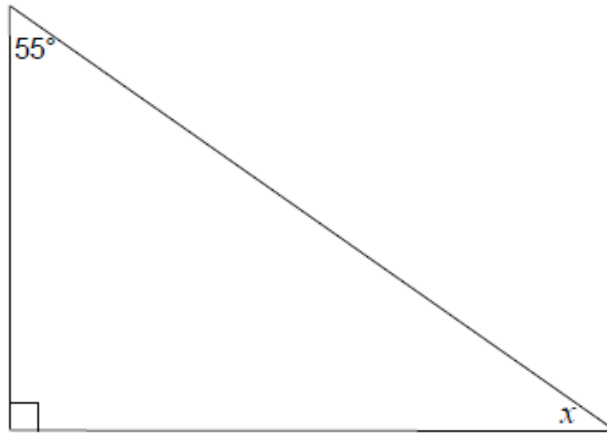
- Ⓐ 22 bags
- Ⓑ 29 bags
- Ⓒ 46 bags
- Ⓓ 132 bags

2) Using the table of values, write an expression to represent the input/output relationship.

Input (n)	Output
2	3
3	5
4	7
5	9
6	11

Response: _____

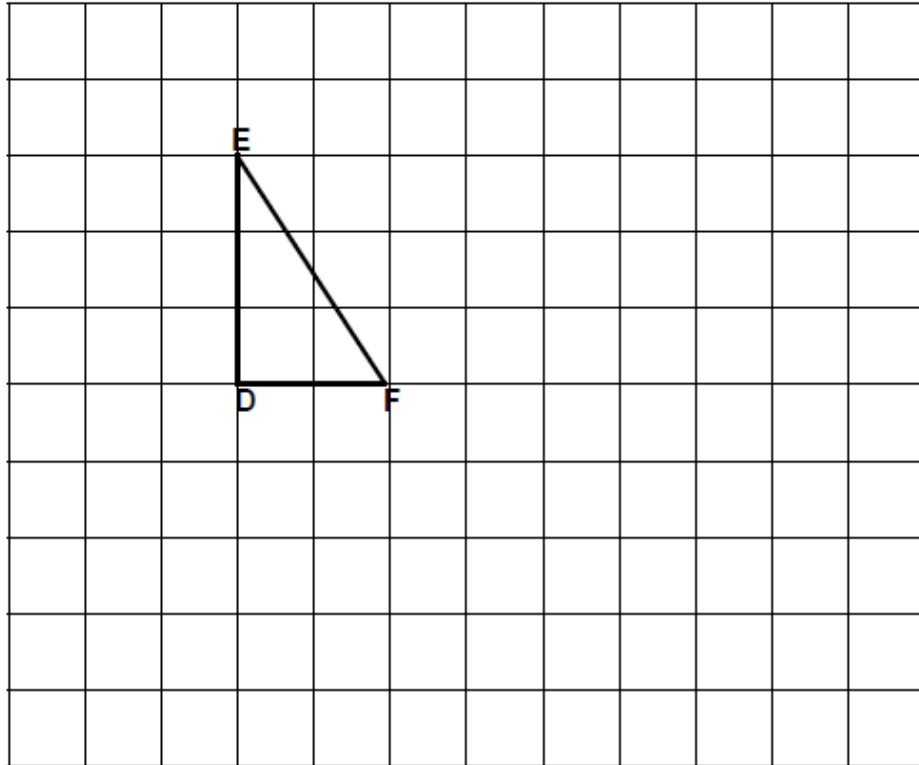
3) What is the measure of angle x ?



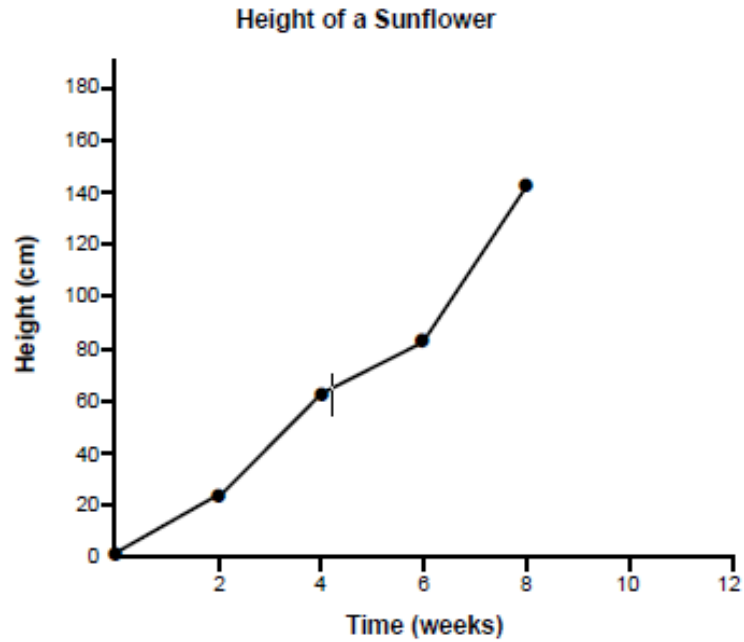
- Ⓐ 35°
- Ⓑ 45°
- Ⓒ 55°
- Ⓓ 90°

4 a.) Translate $\triangle DEF$ 3 squares right and 2 squares down. Label the image.

b.) Rotate the new image clockwise 180° about F' and draw the rotation image. Label this new image.



5) A grade 6 class planted a sunflower and recorded its height in the graph below.



During which 2 week period did the sunflower grow the most?

- Ⓐ Weeks 0 - 2
- Ⓑ Weeks 2 - 4
- Ⓒ Weeks 4 - 6
- Ⓓ Weeks 6 - 8

6) Heidi is making milkshakes. The recipe calls for 2 scoops of chocolate ice cream and 1 cup of milk. If she uses 8 scoops of ice cream, how much milk will she need?

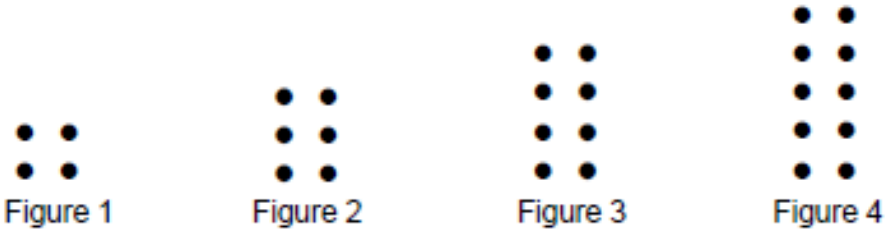


- Ⓐ 4 cups
- Ⓑ 6 cups
- Ⓒ 8 cups
- Ⓓ 16 cups

7) Choose the symbol to make each number sentence true.

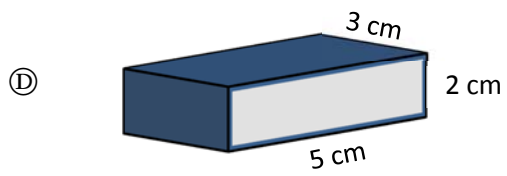
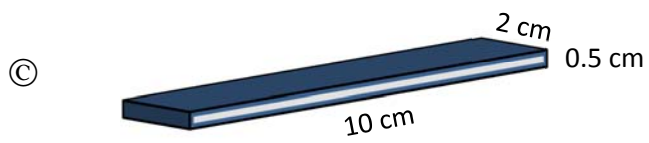
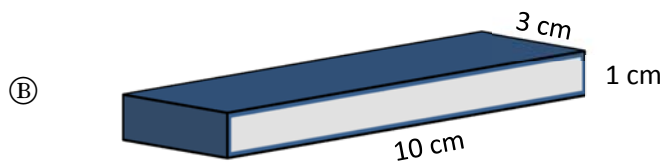
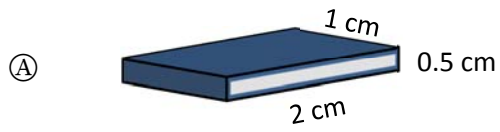
80%	<input type="radio"/> < <input type="radio"/> = <input type="radio"/> >	0.08
0.6	<input type="radio"/> < <input type="radio"/> = <input type="radio"/> >	40%
$\frac{22}{25}$	<input type="radio"/> < <input type="radio"/> = <input type="radio"/> >	88%
25%	<input type="radio"/> < <input type="radio"/> = <input type="radio"/> >	$\frac{1}{3}$

8) If the pattern continues, how many dots will be in Figure 11?



- Ⓐ 12
- Ⓑ 14
- Ⓒ 24
- Ⓓ 44

9) Which rectangular prism has a volume of 10 cm?



10) A paper bag contains 4 green tiles, 8 yellow tiles and 1 blue tile. Jamie draws a tile from the bag without looking. What is the theoretical probability of choosing a green tile?

Ⓐ $\frac{1}{13}$

Ⓑ $\frac{4}{13}$

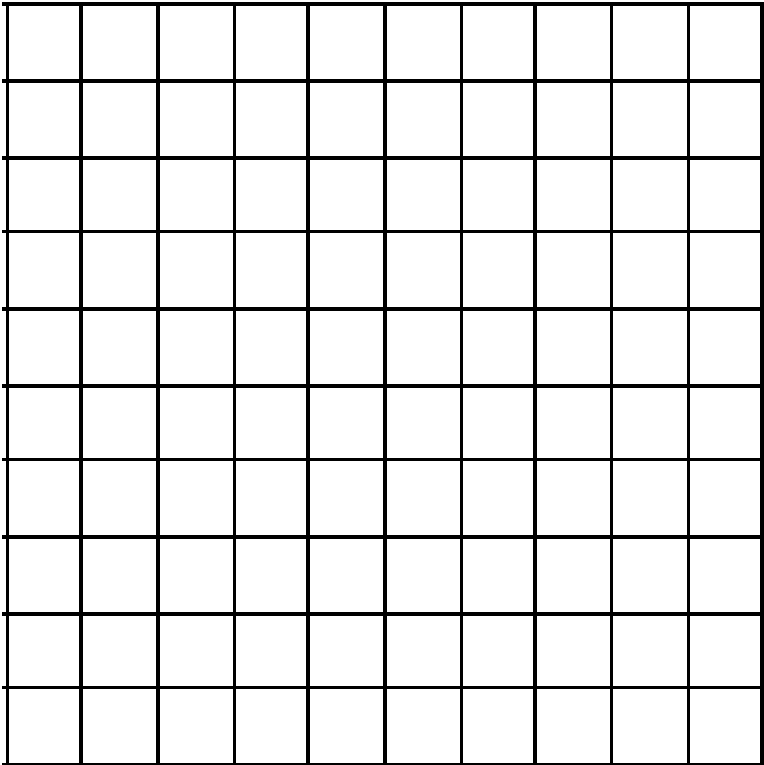
Ⓒ $\frac{8}{13}$

Ⓓ $\frac{9}{13}$

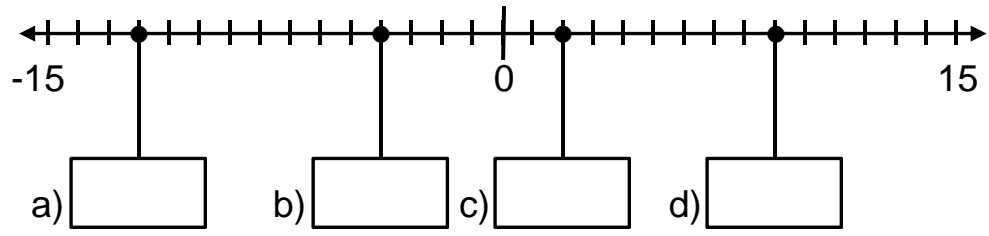
11) Noah is training for a running event. He runs a longer distance each day. He records the distance on a chart. Draw and label a line graph to show the distance Noah runs each day.



Day	Distance (km)
Monday	1.0
Tuesday	1.5
Wednesday	2.0
Thursday	2.5
Friday	3.0

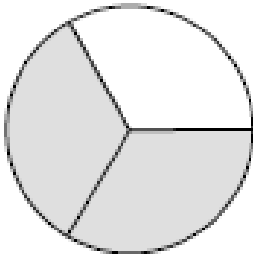


12) Write the missing integer in each box.

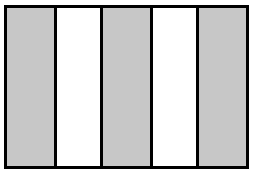


13) Which diagram represents the fraction $\frac{60}{100}$?

(A)



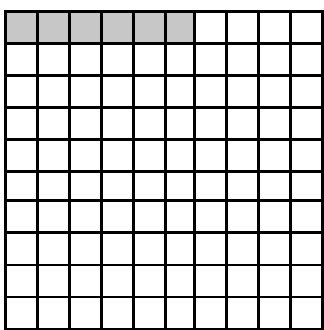
(B)



(C)



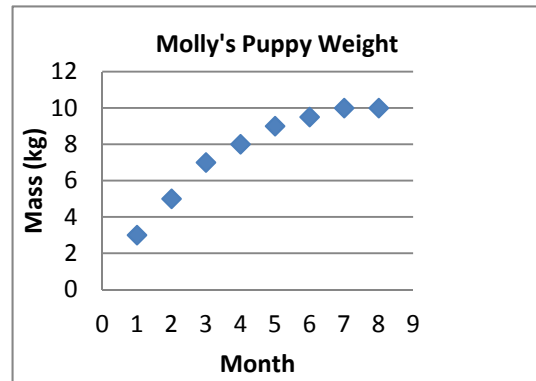
(D)



14) Select the graph that best represents the data shown.

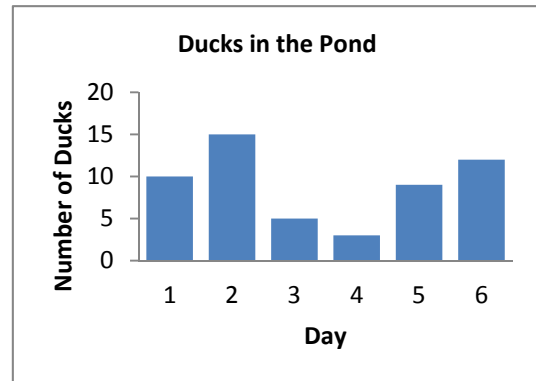
Ⓐ Molly weighs her new puppy at the end of each month for 8 months.

Month	Mass (kg)
1	3
2	5
3	7
4	8
5	9
6	9
7	10
8	10



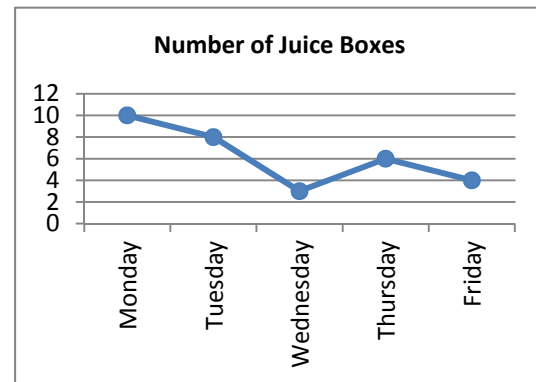
Ⓑ Frankie counted the amount of ducks in the pond each day for 6 days.

Day	Number of Ducks
1	10
2	15
3	5
4	3
5	9
6	12



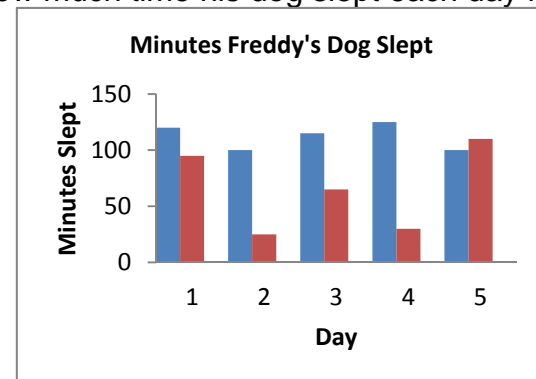
Ⓒ Tina counted the number of juice boxes in the garbage each day.

Day	Number of Juice Boxes
Mon.	10
Tues.	8
Wed.	3
Thurs.	6
Fri.	4



Ⓓ Freddy had a dog and a cat. He measured how much time his dog slept each day for five days.

Day	Minutes Slept
1	120
2	100
3	115
4	125
5	100



15) The local radio station is holding a phone-in contest. Every fourth caller wins a free movie pass. Every sixth caller wins a fast food coupon. Which caller is the first to win both prizes?

- Ⓐ 4th
- Ⓑ 10th
- Ⓒ 12th
- Ⓓ 24th

16) Sophie cut a ribbon into 6 equal lengths. Each piece was 0.24m long.
How long was the ribbon before it was cut?

- Ⓐ 0.04 m
- Ⓑ 0.4 m
- Ⓒ 1.22 m
- Ⓓ 1.44 m



17) Estimate the quotient $26.83 \div 4$.

Ⓐ 0.6

Ⓑ 6

Ⓒ 60

Ⓓ 600

Answer Key

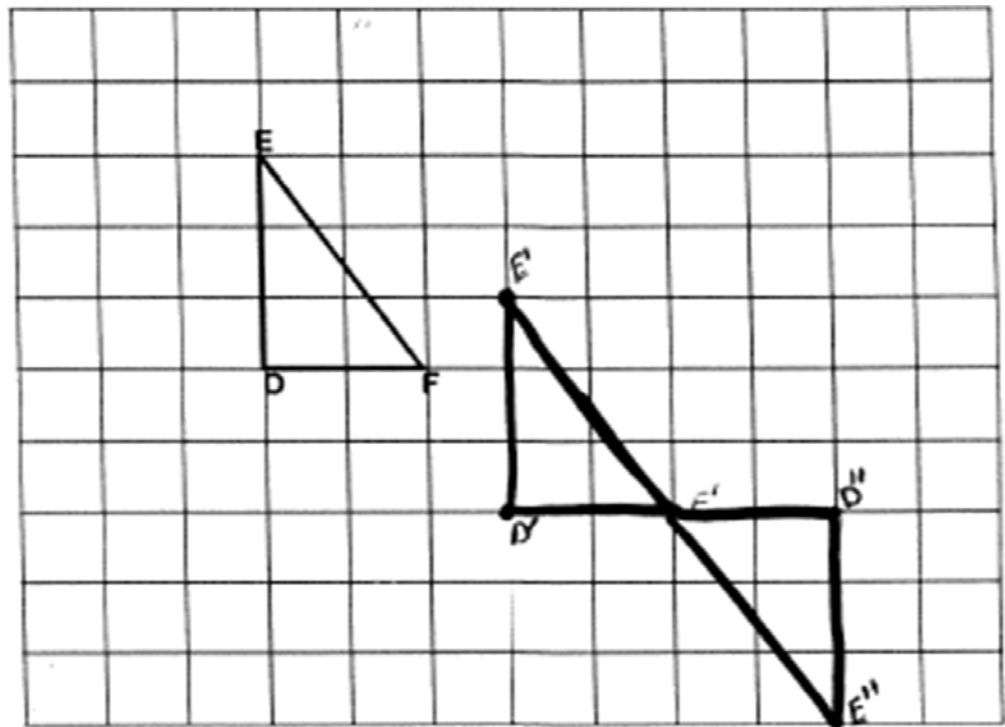
Question 1: A – 22 bags

Question 2: $2n - 1$ (variable may differ)

Question 3: A – 35

Question 4: Note: To receive a correct answer on this question, students need to have the prime marks on the translated image and double prime marks on the rotated image.

1. Translate $\triangle DEF$ 3 squares right and 2 squares down. Label this triangle $D'E'F'$
2. Rotate $\triangle D'E'F'$ clockwise 180° about F' and draw the rotation image. Label the vertices $D''E''$.



Question 5: D – Weeks 6-8

Question 6: A – 4 cups

Question 7: 1. >

2. >

3. =

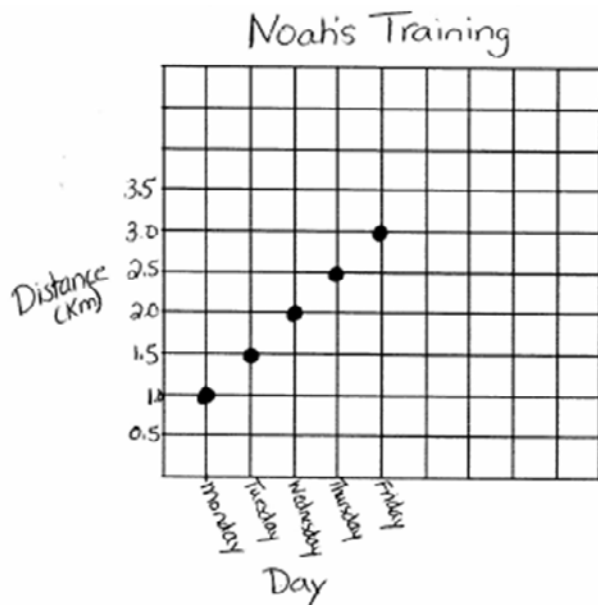
4. <

Question 8: C – 24

Question 9: C

Question 10: B

Question 11:



To receive full credit for this question, the graph must include the following:

- A. Suitable title.
- B. Labeled Axis – for this graph that would include the numbering and listing the days of the week.
- C. Labeled categories – for this graph that would include **Distance (Km)** units must be included and **Day**.
- D. Clear scale – for this graph that would mean the distance would go up in equal increments.
- E. Plot points correctly and clearly.

Question 12: A) -12

B) -4

C) 2 or +2

D) 9 or +9

Question 13: B

Question 14: B

Question 15: C – 12th

Question 16: D – 1.44m

Question 18: B - 6