



MATH OLYMPIAD

Past Paper 01

Flamingo Category
(Ages 12 yr to 18 yr)





On-paper Assessment Round

Name		Time Allowed	90 min
Code #		Total Marks	100

1. Bonnie had Rs. 7,000 when she entered into a store. When she returned, she had Rs. 1200/= left. She has purchased twelve cups and 12 glasses. If the cups cost double the glasses, find the value of each cup.

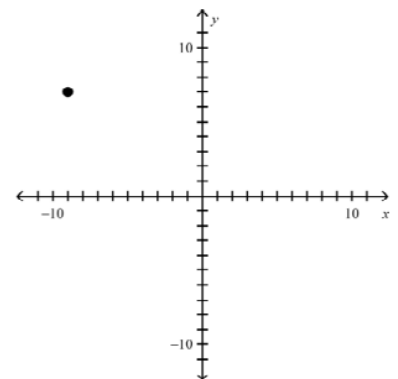
2. Sam purchased a car in 2015 for Rs. 1,200,000 and sold the car in 2017 for Rs. 1,080,000. He then purchased another car (in 2018) for 1,600,000. If the annual rate of depreciation (decrease in car's value) is same for this vehicle too, estimate the cost of the car today (in 2021).





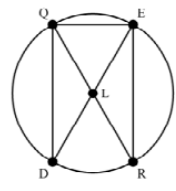
3. A courier services allows a first-class letter to be posted all across Pakistan, within 24 hours. According to their condition, the first-class letter can weigh up to 13.75 ounces. Estimate how much more weight can be added to a letter that weighs 10.25 ounces.

4. Identify the x and y coordinates of the point shown in the graph.

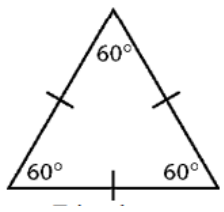




5. In the figure shown, the length of QE is 3 cm, and the length of QD is 4 cm. Find the circumference of the circle.



6. The triangle shown below is an equilateral triangle. If each side is 6 cm long. Find the area of the triangle.



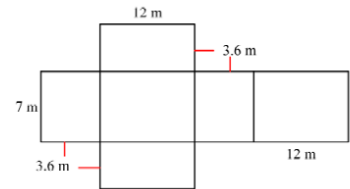
7. How many minutes do we have in 16 days?



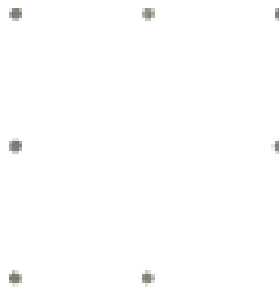


8. A box contains 12 books, and each book weighs, on average, 2.3 pounds. How much does the entire box weigh?

9. A box is made up of cardboard. The cardboard dimensions are shown. Determine the surface area of the cardboard.



10. Connect four dots in the figure shown, to form a square.





11. Liz turns pages of her book and multiplies page numbers on the left to the page numbers on the right. The page number on the left is 6. Find the product of the two page numbers.



12. Complete the puzzle below.

6	×	10	=	
×		×		-
2	×	4	=	
=		=		=
	+		=	

13. Circle the group of two or more numbers that have a product of 18. Try to use all numbers in the grid shown.

2	3	2	3
9	2	3	3
3	2	3	2
9	3	2	3



14. Solve the following; 909×101

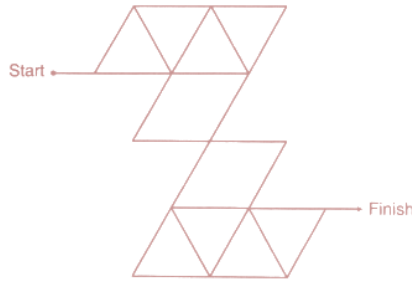
15. Calculate the following; 88×99

16. How many days are in 5 weeks?

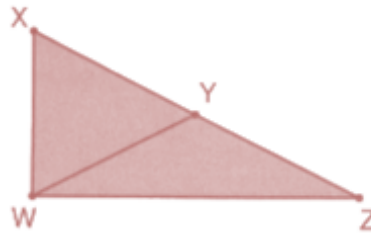
17. Find the moon's rotation time , around the earth in minutes (hint: It takes 29 days for moon to rotate around the earth)



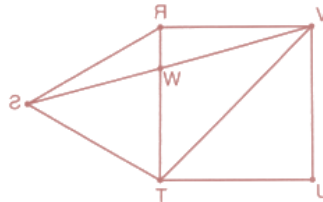
18. Trace a path from start to finish that has only obtuse angles.



19. Which of the triangles shown in an obtuse triangle?



20. List down all three scalene obtuse triangles in the figure shown.

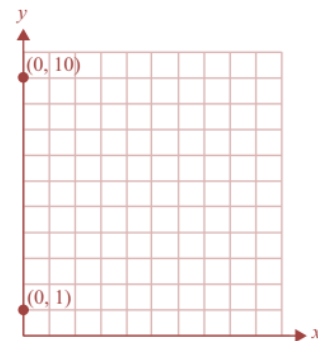




Computer Based Testing (CBT) On-campus

Name		Time Allowed	90 minutes
Code #		Total Marks	100

- John eats $\frac{2}{7}$ th of the cake. What percentage of cake has been eaten by him?
 - 28%
 - 30%
 - 32%
 - 35%
- A small submarine started its dive at sea level and descended 30 feet per minute. Which of the options represents the submarine's depth after seven minutes?
 - 140 ft
 - 23 ft
 - 37 ft
 - 210 ft
- What is the distance between the points at (0, 1) and (0, 10)? Use the graph shown to answer the question.
 - 10
 - 09
 - 08
 - 07





4. Using the calorie table shown, determine which expression represents the number of calories in "r" oranges and 1/4 cup of pecan?

- a. $70 + 185$
- b. $75r + 185$
- c. $70r + 185$
- d. $75 + 185$

Food	Calories
Cheddar cheese, 1 ounce	114
Orange, 1 medium	70
Egg, 1 large	75
Strawberries, 1 serving	45
Pecans, 1/4 cup	185

5. If $s + 12 \geq 100$, which of the expressions is true?.

- a. $s > 88$
- b. $s < 88$
- c. $s \geq 88$
- d. $s \leq 88$

6. Mariam wants to buy play station that costs Rs. 96,000/=. Mariam had saved Rs. 24,000, and she plans on saving Rs. 1,200 each week. After how many weeks, will she have enough money to buy the play station?

- a. 6 weeks
- b. 24 weeks
- c. 40 weeks
- d. 60 weeks

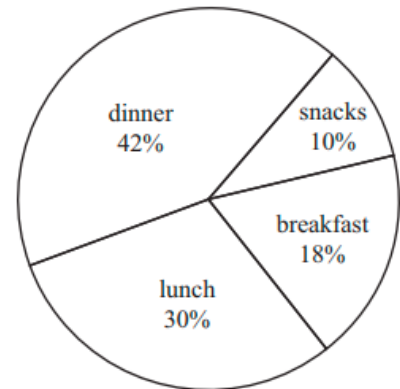
7. The temperature of an oven reduces from 300°F to 72°F in 20 minutes. What would be the temperature of the over after 11 min.

- a. 175
- b. 150
- c. 125
- d. 10



8. Sales chart of a restaurant services is shown. If the total customers visited the restaurant are 350, how many customers visited the restaurant for the breakfast?

- a. 56
- b. 63
- c. 67
- d. 72

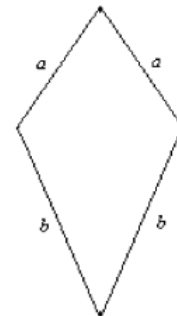


9. Ben visits the park every 2 days and goes to the library every 5 days. If Ben gets to do both of these today, how many days will pass before Ben gets to do them both on the same day again?

- a. 20 days
- b. 10 days
- c. 7 days
- d. 3 days

10. Write an expression for the perimeter of the shape shown.

- a. $a + b$
- b. $2a + b$
- c. $a + 2b$
- d. $2a + 2b$

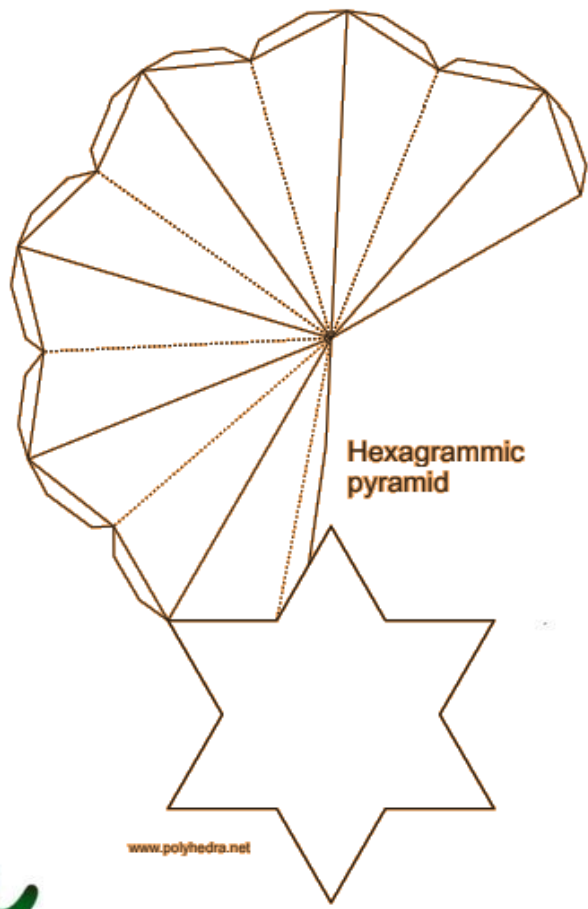




Hands-on Assignment

Name		Time Allowed	90 minutes
Code #		Total Marks	

1. Cut and fold the given shape of "hexagrammic pyramid "into 3D.



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Verbal Timed Quiz (Time allowed: 30 sec per problem)

1. A right triangle has two sides 3 and 4. How long is the third side?
2. What is the decimal value of the fraction $8/9$?
3. What is the decimal value of the fraction $7/11$?
4. A right triangle with hypotenuse $\sqrt{2}$ (square root two). What are the rest of the sides?
5. If $28 = 4x$, find the value of x .
6. 15×20 ?
7. $1/4$ is greater or $3/8$?
8. $316 - 260$?
9. What number doesn't have its own Roman numeral?
10. Upper fraction is called?



Buzzer Round (Verbal)

1. $16 \times 16 \div 16 \times 16$?
2. What is the value of π ?
3. 245 litre is equal to _____ milliliters.
4. 666 grams + 299 grams +35 grams?
5. How many right angles does Hexagonal prism have?
6. $19 \div 17 =$
7. How many vertices does icosahedron have?
8. How many seconds are there in 6 hour?
9. If we 2d star shape which shape it will become?
10. $170 - 152 + 77$?