

## ALTERNATE ACADEMIC CALANDER FOR THE MONTH OF FEBRUARY

**Class:7**

**Subject :Mathematics**

**February: 2022**

Sl no	Week	Important learning objectives	Learning activities	Evaluation
0 1	1 <sup>st</sup> week	Exponents and exponential powers.  * Laws of exponents 1) Multiplying exponents with same base number. 2) Dividing exponents with same base number. 3) Taking exponential power to exponents.	*Let us inform to identify base number and exponential powers of the given exponents. <a href="https://youtu.be/cF8CHT3IQzQ">https://youtu.be/cF8CHT3IQzQ</a> * Let us help to express given numbers as product of prime factors and as exponents. <a href="https://youtu.be/HosEBJTlpqo">https://youtu.be/HosEBJTlpqo</a> *Let us help to practice five laws of exponents with example and solve problems given in work sheets.	Work sheet-1. Solve 3 <sup>rd</sup> and 5 <sup>th</sup> main question of exercise 13.1. Work sheet-2. Solve problems of 1 <sup>st</sup> main question of exercise 13.2.
0 2	2 <sup>nd</sup> week	4) Multiplying exponents with same exponential powers. 5) Dividing exponents with same exponential powers. *Expressing bigger number in standard form.	<a href="https://youtu.be/TR_zt05rJCQ">https://youtu.be/TR_zt05rJCQ</a> *Let us help to solve problems given in exercise using five laws of exponents. *Understands meaning of standard form and express bigger numbers in standard form.	Work sheet-3. Solve problems of exercise 13.3. Work sheet-4.
0 3	3 <sup>rd</sup> week	Symmetry. *Meaning of symmetry. *Identifies line of symmetry or axis of symmetry. *Symmetrical lines of regular polygons.	<a href="https://youtu.be/-Yq8ee-heOg">https://youtu.be/-Yq8ee-heOg</a> *Understands meaning of symmetry with the help of examples. *Draws axis of symmetry for the given figure and writes its axis of symmetry number. *Draw figures of regular polygons,line of symmetry & writes axis of symmetry number.	Work sheet-5 Work sheet-6. Solve, problems of Suvega work book. Page no.47 and 48. Work sheet-7
0 4	4 <sup>th</sup> week	*Reflection symmetry *Rotational symmetry. Centre of rotation, angle of rotation and order of rotation.	<a href="https://youtu.be/nTnLnv_r9wY">https://youtu.be/nTnLnv_r9wY</a> * Let us tell them to draw a line of points, (mirror line) complete each reflection picture. *Let us help to identify centre, angle and order of given figures.	Work sheet-8 Solve problems of exercise 14.2 and 14.3

## Work sheet-

1. Identify base number and exponential power of the following exponents:

Exponents	Base number	Exponential power
$3^4$		
$(\frac{7}{6})^2$		
$\frac{1}{2^5}$		
$(4.5)^7$		

2. Express the following in the form of exponential powers.

Expanded form	Exponential form
$6 \times 6 \times 6 \times 6$	
$p \times p \times p$	
$2 \times 2 \times a \times a$	
$A \times a \times a \times c \times c \times c \times b$	

3. Express the following in the form of exponents.

1) 576	2) 484
3) 729	4) 625

## Work sheet-2

1. Simplify the following exponents using  $a^m \times a^n = a^{m+n}$

Example:  $2^3 \times 2^4 = 2^{3+4} = 2^5$

1) $3^3 \times 3^7$	2) $5^4 \times 5^3$
3) $7^{10} \times 7^4$	4) $2^4 \times 2^5 \times 2$

2. Simplify the following exponents using  $a^m \div a^n = a^{m-n}$

Example:  $2^4 \div 2^2 = 2^{4-2} = 2^2$

1) $3^8 \div 3^7$	2) $5^7 \div 5^2$
3) $2^{10} \div 2^4$	4) $7^4 \times 7^6$

3. Simplify the following exponents using  $(a^m)^n = a^{m \times n}$

Example:  $(2^4)^8 = 2^{4 \times 8} = 2^{32}$

1) $(3^8)^5$	2) $(5^7)^4$
3) $(2^{10})^7$	4) $(7^7)^6$

## Work sheet-3

1. Simplify the following exponents using  $(axb)^m = a^m \times b^m$

Example:  $(2 \times 5)^8 = 2^8 \cdot 5^8$

1) $(3 \times 8)^5$	2) $(5 \times 9)^4$
3) $(3 \times 2)^7$	4) $(7 \times 5)^6$

2. Simplify the following exponents using  $(a \div b)^m = a^m \div b^m$

Example:  $(2 \div 5)^8 = 2^8 \div 5^8$

1) $(3 \div 8)^5$	2) $(5 \div 9)^4$
3) $(3 \div 2)^7$	4) $(7 \div 5)^6$

3) Express the following numbers as exponents and simplify using suitable laws of exponents.

1) $243 \times 27$	2) $\left(\frac{12}{5}\right)^6 \times \left(\frac{125}{81}\right)^3$
3) $\frac{2^0 \times 3^0}{4^0}$	4) $\frac{3^8}{3^7 \times 3^3}$
5) $\frac{2^4 \times 5^4 \times 2^3}{5 \times 64}$	6) $125^4 \div 5^2$

Work sheet-4

**1) Write scientific notation standard form of following statements.**

a) The speed of light is 3 lakh kilometers per second.

b) One light year is 9,460,700,000,000 km

c) The distance between sun and moon is 384400 km

d) Diameter of sun is 1391400 km

**2) Write expanded form of the following numbers.**

1) 279404

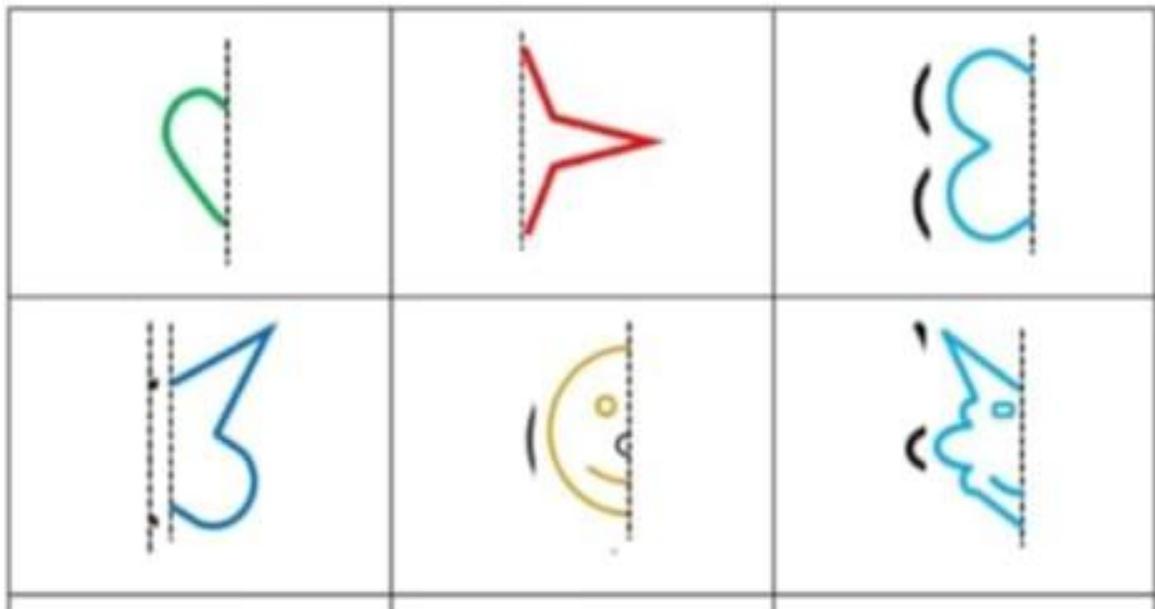
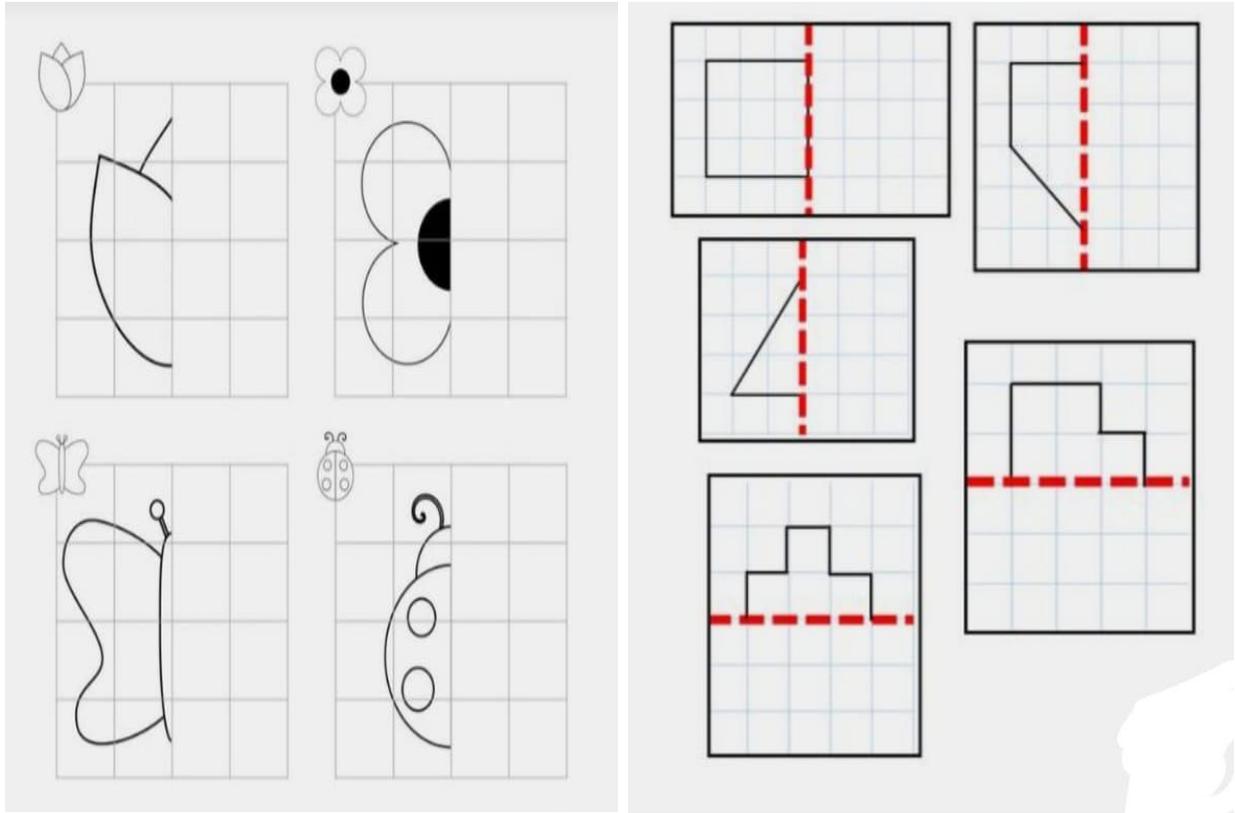
2) 3006194

3) 2806196

4) 120719

Work sheet-5

Through the mirror line symmetry, trace and complete each figure.



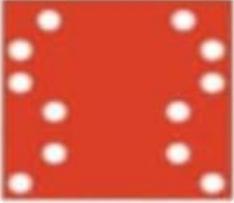
## Work sheet-6

Write regular polygons figures. Draw and identify number of lines of symmetry.

Name of figure	Figures	Number of lines of symmetry
1) Equilateral triangle		
2) Square		
3) Regular pentagon		
4) Regular hexagon		
5) Regular octagon		

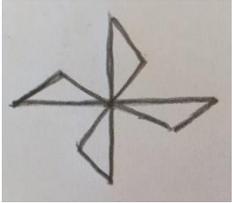
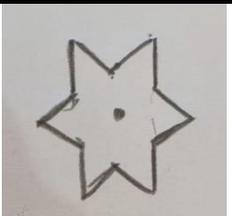
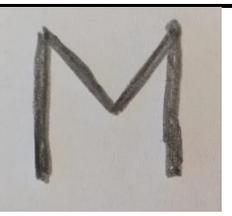
Work sheet-7

Trace each figure along with holes and find out axis of symmetry.

Figure	Axis of symmetry
	
	
	
	
	

## Work sheet-8

Write rotational order and rotational angle of the following figures.

Figures	Rotational order	Rotational angle
		
		
		
		
		
		

Dear children, complete the table given in page no. 52 and 54 of work book.