BUDHA DAL PUBLIC SCHOOL PATIALA
FINAL EXAMINATION (5 March 2024)
MATHEMATICS
Class – VII
(Set – A)

Time Allowed: 3 hours

Maximum Marks: 80

Instructions:
1. All questions are compulsory.
2. Section – A : Q.No. 1 to 6 carry 1 mark each
3. Section – B : Q.No. 7 to 12 carry 2 marks each
4. Section – C : Q.No. 13 to 22 carry 3 marks each
5. Section – D : Q.No. 23 to 30 carry 4 marks each

SECTION-A

1. Write equation for one third of a number plus 5 in 8. — 1

2. Find supplement of 112^0 — 1

3. Define median. — 1

4. Out of 25 children in a class, 15 are girls. What is the percentage of girls? — 1

5. Write in standard form $\frac{36}{-24}$ — 1

6. Which is greater? $(5^2) \times 3 \ or \ (5^2)^3$ — 1

SECTION-B

7. Write exponential form for $8 \times 8 \times 8 \times 8$ taking base as 2. — 2

8. Find three rational numbers between $\frac{-5}{7} \ and \ \frac{-3}{8}$ — 2

9. a) Are these sides form a triangle 6cm, 5cm, 7cm. — 2
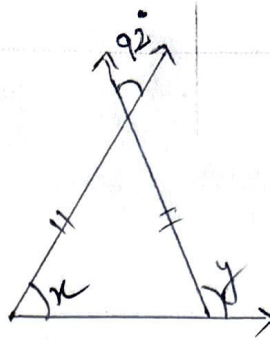
   b) Are these lines parallel?
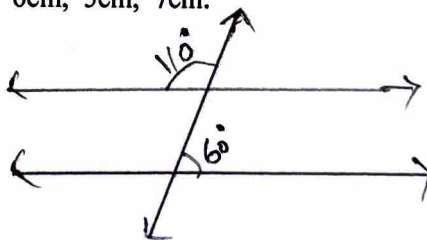
10. The cost of a flower vase is Rs. 1080. If the shopkeeper sells it at a loss of 10%, find the price at which it is sold? — 2

11. Write steps and solve $3x + 5 = 14$ — 2

12. The length of two sides of a triangle are 6cm and 8cm. Between which two numbers can length of the third side fall? — 2

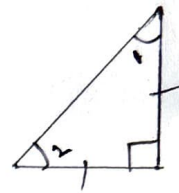## SECTION-C

13. Solve a) $4 + 5 (p - 1) = 34$ b) $3 \, l = 42$ — 3

14. Find the unknown (a)

(b)

15. Find the mean, median and mode of the data :

14, 13, 16, 12, 19, 12, 14, 13, 14

3

16. a) Find the angle which is equal to its supplement.

b) Find complementary angle of 52^0.

c) Are these sides form a right angled triangle 6.5 cm, 2 cm, 2.5 cm

3

17. a) Do $\frac{-16}{20}$ and $\frac{20}{-25}$, represent the same. rational numbers?

b) Reduce into lowest form (i) $\frac{-44}{72}$ (ii) $\frac{42}{49}$

3

18. The heights of 10 girls were measured in cm and the results are as follows:

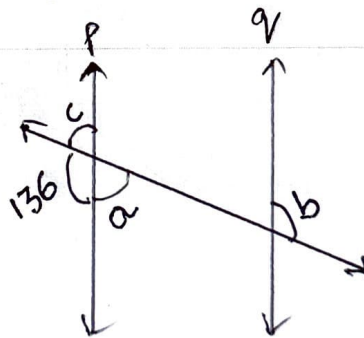135, 150, 139, 128, 151, 132, 146, 149, 143, 141

a) What is the height of the tallest girl?

b) What is the range of the data?

c) What is the height of the shortest girl?

3

19. In the adjoining figure, $p \parallel q$

Find the unknown angles.

3

20. a) Express the following in standard form (i) 6258.9 (ii) 76200

b) Express 1440 as product of powers of prime factors.

3

21. a) Find 75% of 12

b) 9 is 25% of what number?

c) Convert into percent $\frac{3}{40}$

3

22. Simplify a) $\frac{4^5 \times a^8 b^2}{2^{10} \times a^3 b^2}$ b) $(7^0 + 100^0) \times 10^0$ 3

SECTION-D

23. Solve the following equations by trial and error method.   4

$$7P - 1 = 27$$

24.
a) The two interior opposite angles of an exterior angle of a triangle are 60^0 and 80^0. Find   4
the measure of the exterior angle.
b) Can you think of a triangle in which two altitude of the triangle are two of its sides?
Name it and draw Rough figure.

25. Sale of English and Hindi books in the years 1995, 1996, 1997 and 1998 are given below :   4

Years	1995	1996	1997	1998
English	350	400	450	620
Hindi	500	525	600	650

Draw a double bar graph and answer the question.

a) In which year was the difference in the sale of the two language books least?

26. a) Show $\frac{-6}{11}$ on number line.   4

b) Find (i) $\frac{-3}{7} + \frac{2}{3}$ (ii) $\frac{-5}{6} + \frac{-3}{11}$ (iii) $\frac{3}{13} \div \frac{4}{65}$

27.
a) $(-10)^5 = $ _____   4

b) $(6^2)^4 = $ _____

c) Find the unknown $\left(\frac{2}{3}\right)^{-3} \times \left(\frac{2}{3}\right)^6 = \left(\frac{2}{3}\right)^{2x+1}$

28.
a) 200 kg of rice was distributed amongst A, B and C in the ratio 4 : 7 : 9. How much does   4
each get?

b) At what rate will Rs. 6500 give an interest of Rs. 1365 in 3 years?

29. There was a sale in a mall in a brand ;Adidas'. A person bought a pair of shoes for Rs. 3000   4
last year but for Rs. 4500 in this year.

**On the basis of given information, answer the following questions by choosing the correct
option from the given four options in each question:**

1) Find out the increased percentage
a) 45%   b) 75%   c) 40%   d) 50%

2) What is the formula to find out loss percent?
a) $\frac{L}{CP} \times 100$ b) $\frac{CP}{SP} \times 100$ c) $\frac{100}{CP} \times SP$ d) $\frac{CP}{L} \times 100$
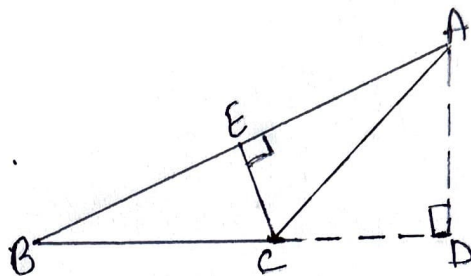
3) What is the formula of finding profit?
   a) CP – SP   b) SP – CP   c) Amount – CP   d) 100 – CP

4) What is the formula of amount?
   a) Principal + S.I.   b) S.I. – Principal   c) Principal – S.I.   d) none of these

30. $\triangle ABC$ is an isosceles triangle E is midpoint of AB   4

1) In $\triangle ABC$, line segment $\overline{AD}$ is _____
   a) Median   b) Altitude   c) Mode   d) None of these

2) Is the measure of $\angle 1$ *and* $\angle 2$ same?
   a) Yes   b) No

3) In $\triangle ABC$, line segment $\overline{CE}$ is _____
   a) Median   b) Altitude   c) Median as well as Altitude

4) What is sum o three angles of Triangle?
   a) 180^0 b) 90^0 c) 360^0

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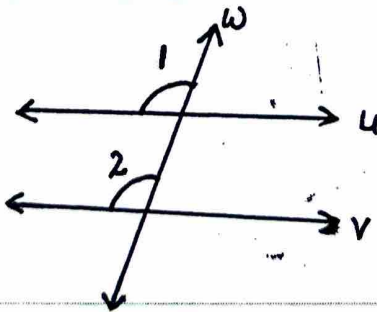
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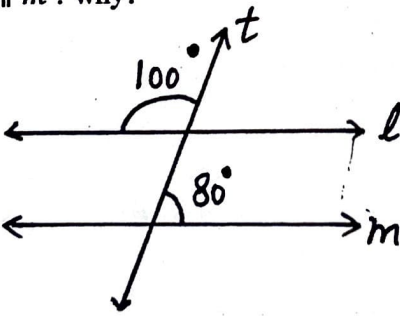5. Section – D : Q.No. 23 to 30 carry 4 marks each

SECTION-A

1.	Write the following equation in statement form $3n + 7 = 1$	1
2.	Find complement of 75^0	1
3.	Define Altitude.	1
4.	A survey of 40 children showed that 25% liked playing football. How many children liked playing football?	1
5.	Give two rational numbers equivalent to $\frac{-6}{7}$	1
6.	Express the following in standard form (a) 5985.3 (b) 65950	1

SECTION-B

|		
7.	Write exponential form for $9 \times 9 \times 9 \times 9 \times 9$ taking base as 3.	2
8.	Write steps and solve $12p - 5 = 25$	2
9.	a) Two angles of a triangle are 30^0 and 80^0. Find third angle. b) Can you have a triangle with two right angle?	2
10.	Do $\frac{4}{-9}$ and $\frac{-16}{36}$ represent the same rational number?	2
11.	An article was sold for Rs. 250 with a profit of 5%. What was its cost price?	2
12.	a) Find supplement of 50^0. b) Name the pair of angles in given figure	2

B-1

SECTION-C

13. a) Is there a triangle whose sides have lengths 10.2 cm, 5.8 cm and 4.5 cm

b) The two interior opposite angles of an exterior angle of a triangle are 60^0 and 80^0. Find measure of exterior angle.

3

14. Solve the following equations by trial and error method.
$$5p - 2 = 28$$

3

15. The runs scored in a cricket match by 11 players is as follows :

6, 15, 120, 50, 100, 80, 10, 15, 8, 10, 15

Find mean, mode and median of the data. Are the three same?

3

16. a) Express 2800 as product of powers of prime factors.

b) Which one is greater 2^3 or 3^2 ?

3

17. a) Find the whole quantity if 16% of it is Rs. 1080.

b) Convert 0.25 to percent

c) 45% = 100% - _____ %

3

18. a) List four rational number between $\frac{-1}{2}$ and $\frac{2}{3}$

b) Reduce the following rational number in simplest form

(i) $\frac{-25}{95}$ (ii) $\frac{-16}{128}$

3

19. a) Is $l \parallel m$? why?

b) When a transversal cuts two lines such that a pairs of corresponding angles are equal, lines have to be _____ .

3

20. The heights of 10 girls were measured in cm and the results are as follows :

127, 139, 124, 159, 133, 147, 151, 143, 132, 134

a) What is height of tallest girl?

b) What is range of the data ?

c) What is height of shortest girl?

3

B-2

21. In the following figure, $p \parallel q$.

Find unknown angles.

3
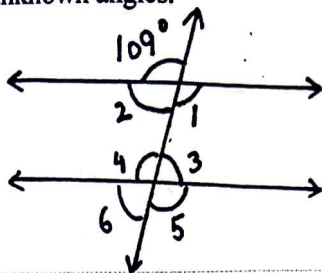
22. Simplify a) $((4^2)^4 \times 4^3) \div 4^5$ b) $(10^0 + 16^0) \times 12^0$ c) $\dfrac{5^9}{5^5 \times 5^4}$

3

SECTION-D

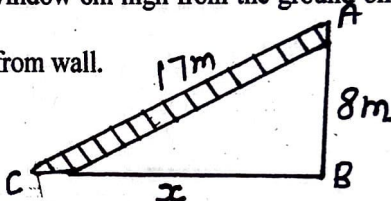**23.** Solve (a) $17 + 6\,(p - 1) = 68$

(b) $\dfrac{2p}{3} = 4$

(c) $6a = 36$

4

24. a) A 17m long ladder reached a window 8m high from the ground on placing it against a wall at distance 'x'.
Find distance of foot of ladder from wall.

4

b) A _____ connects a vertex of a triangle to midpoint of opposite side.
c) A triangle in which two sides are of equal lengths is called an _____ triangle.

25. The performance of a student in 1st term and 2nd term is given. Draw a double bar graph. Choose appropriate scale and answer the following:
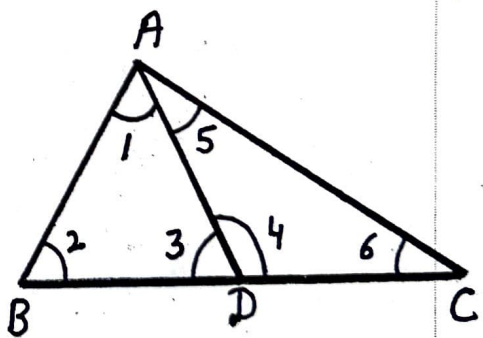
4

Subject	Maths	Science	English	S.St.	Gujarati
1st Term (M.M. 100)	75	70	65	85	85
2nd Term (M.M. 100)	80.	75	70	90	95

a) Has the performance gone down in any subject?
b) In which subject has the child improved his performance the most?

26. Find a) $\dfrac{-2}{7} \div \dfrac{3}{10}$ b) $\dfrac{4}{11} + \left(\dfrac{-3}{22}\right)$ c) $\dfrac{3}{5} + \left(\dfrac{-6}{5}\right)$

4

B-3

27.

a) Find the number from each of following expanded form

$$3 \times 10^5 + 2 \times 10^4 + 1 \times 10^3 + 0 \times 10^2 + 2 \times 10^1 + 0 \times 10^0$$

b) Exponential form of

$$a \times a \times a \times a \times b \times b \times c \times c \times c \_\_\_\_\_$$

c) Find x so that $\left(\frac{7}{5}\right)^5 \times \left(\frac{7}{3}\right)^{10} = \left(\frac{7}{3}\right)^{7x+1}$

28.

a) 200 kg of rice was distributed amongst A, B and C in the ratio $3 : 8 : 9$. How much does each get? **4**

b) Find amount to be paid at the end of 5 years.Principal = Rs. 12,250 at 15% p.a.

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29. Sohini said that they were going to buy a new car.Mohan asked her whether they had money to buy it.Sohini said her father was going to take a loan from a bank. **4**

On the basis of given information, answer the following questions :

1) The money they borrow is known as
   a) Amount   b) Principal   c) Rate of interest   d) None of these

2) For keeping the money for some time the borrower has to pay some extra money to the bank. This extra money known as
   a) Interest   b) Principal   c) Amount   d) None of these

3) Write the formula to calculate rate of interest
   a) $\frac{SI \times 100}{P \times T}$ b) $\frac{SI \times 100}{R \times T}$ c) $\frac{P \times T}{SI \times 100}$ d) None of these

4) Total sum of money after addition of interest is known as
   a) Amount   b) Principal   c) Rate of interest   d) none of these

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30. D is midpoint of side BC of a $\triangle ABC$. AD is joined as shown in figure. **4**

1) What do we say to line AD?
   a) Median   b) Altitude
   c) Mode   d) None of these

2) $\angle 1 + \angle 2 =$
   a) $\angle 4$ b) $\angle 5$ c) $\angle 6$ d) $\angle 3$

3) How many medians does a triangle have
   a) 0   b) 2   c) 3   d) 4

4) What is name of Triangle ABC
   a) Acute angled Triangle   b) Obtuse angled Triangle
   c) Right angled Triangle   d) None of these

B-4