1. Which is greater of: 48.23 and 36.35
2. Express 1359/1000 as decimal.
3. Add 16.44, 8.524 and 26
4. Find the value of: 108.032 - 88.9
5. By how much 34.9 should be increased to get 70.9
6. Simplify 35.9 - 16.09 + 88.2 - 50.6
7. Find the product of : 3.25 × 12
8. Multiply 0.345 by 0.0237
9. Find the area of a rectangle whose length is 5.5 m and breadth is 3.4 m.
10. One kg of rice cost Rs 42.65. What will be the cost of 15 kg of rice.
11. Divide 128.9/100
12. Divide 93.45/25
13. Divide 48.08/400
14. The cost of 24 pens is rs 2986.80. Find the cost of one pen.
15. The product of two decimals is 1.8576, if one of decimals is .54. Find the other.
16. Product of two decimal is 42.987, if one of them is 12.46,find the other.
17. A car covers a distance of 89.1 km in 2.2 hours. What is the average distance covered by it in one hour.
18. Each side of a regular polygon is 2.5 cm in length. The perimeter of the polygon is 12.5 cm. How many sides does the polygon have?

EXERCISE 4.2

1. Give first the step you will use to separate the variable and then solve the equation:

(a) $x - 1 = 0$ (b) $x + 1 = 0$ (c) $x - 1 = 5$ (d) $x + 6 = 2$

(e) $y - 4 = -7$ (f) $y - 4 = 4$ (g) $y + 4 = 4$ (h) $y + 4 = -4$

2. Give first the step you will use to separate the variable and then solve the equation:

(a) $3l = 42$ (b) $\frac{b}{2} = 6$ (c) $\frac{p}{7} = 4$ (d) $4x = 25$

(e) $8y = 36$ (f) $\frac{z}{3} = \frac{5}{4}$ (g) $\frac{a}{5} = \frac{7}{15}$ (h) $20t = -10$

3. Give the steps you will use to separate the variable and then solve the equation:

(a) $3n - 2 = 46$ (b) $5m + 7 = 17$ (c) $\frac{20p}{3} = 40$ (d) $\frac{3p}{10} = 6$

4. Solve the following equations:

(a) $10p = 100$ (b) $10p + 10 = 100$ (c) $\frac{p}{4} = 5$ (d) $\frac{-p}{3} = 5$

(e) $\frac{3p}{4} = 6$ (f) $3s = -9$ (g) $3s + 12 = 0$ (h) $3s = 0$

(i) $2q = 6$ (j) $2q - 6 = 0$ (k) $2q + 6 = 0$ (l) $2q + 6 = 12$

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Class 7

Exponents and Powers

Answer the questions

(1) Find value of following

A) 8^4

B) $(-8)^3$

C) 9^4

D) $(-7)^3$

(2) $\left(\frac{-2}{2}\right)^2 \times \left(\frac{1}{2}\right)^3 \times \left(\frac{2}{3}\right)^3 = ?$

(3) Simplify the following and write the answer in exponential form

A) $5^2 \times 5^6 \times 5^4 \times 5^6 \times 5^7$

B) $2^5 \times 2^5$

C) $3^6 \times 3^7 \times 3^5$

D) $3^9 \times 3^4 \times 3^3 \times 3^6$

(4) If x=1 and y=5, find the value of $\left(\frac{x}{y}\right)^x$

(5) Find number for following expanded forms

A) $0\times10^2 + 0\times10^3 + 0\times10^3 + 5\times10^5 + 9\times10^6$

B) $0\times10^1 + 9\times10^4 + 2\times10^2 + 1\times10^5 + 0\times10^7$

(6) $\left(\frac{-5}{3}\right)^3 \times \left(\frac{1}{3}\right)^2 = ?$

(7) If $2^p + 2^{p+1} = 24$, find the value of p.

Choose correct answer(s) from given choice

(8) $\left(\frac{4}{2}\right)^4 \div \left(\frac{1}{2}\right)^3 = ?$

a. $\frac{4096}{8}$

b. $\frac{128}{1}$

c. $\frac{256}{8}$

d. $\frac{1024}{32}$

(9) Neha plants a jasmine on her 6^{th} birthday. If the plant has one jasmine to start with, and number of jasmines doubles every week, then how many jasmines will be there after *x* weeks?

a. 2^x

b. x^2

c. 2 x

d. None of these

Maths Revision questions.

1. Find the mean, median, mode and range of the following groups.

a) 4, 6, 7, 6, 3, 6, 4, 2, 8, 6, 6, 2 b) 57, 75, 40, 34, 45, 60, 45, 44

c) 32, 40, 29, 54, 35, 26, 23, 33, 38, 40

2. A dice was thrown 10 times and the following outcomes were recorded.

5, 1, 2, 5, 4, 3, 5, 6, 1, 6

3. Find the value of x if the mean of the following data is 9.

12, 5, 3, 18, 10, 17, x, 6, 6. Also, find the range of the data.

4. For relief work, a family of 8 members contributed the following amounts (in ₹) of money.

200, 500, 350, 500, 250, 700, 320, 1004.

Find the mode and mean ~~contributed~~ contribution per member.

5. The following data gives the production of food grains [in thousand tonnes] for some years.

Year	2003	2004	2005	2006	2007	2008
Production [in thousand tonnes]	120	150	130	180	160	190

Draw a bar graph for the above data.

6. The income and expenditure of a family for 5 years are given below.

Year	2003-4	2004-5	2005-6	2006-7	2007-8
Income (in thousands)	100	130	170	185	210
Expenditure (in thousands)	85	127	160	170	190

Represent the above data with the help of a bar graph.

7. How many possible outcomes are there for the following experiments?

a) Choose a letter from the word 'English'.
b) Choose a number from the first ten whole numbers.
c) Two coins are tossed simultaneously.
d) Choose a colour from the colours of a rainbow.

8. A coin is flipped to decide which team will start the game. Find the probability that your team will start the game.

9. To find out about the popularity of science as a subject, a survey of 200 students was conducted, and the data obtained is given below.
Liking - 125; Disliking - 75
a) does not like science as a subject.
b) Likes science as a subject.

10. The circumference of a circle is 4π. Find the area of the circle.

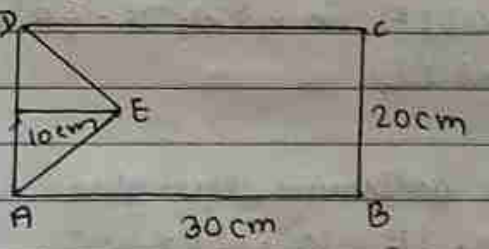
11. In a circular garden of 50m radius, a pond is constructed in the form of a circle with radius 20m. Find the area of the land left out.

12. The outer length and breadth of a painting is 150 cm × 120 cm. If there is a margin of 8 cm width all around the painting, find the area of the actual paintings without the margin.

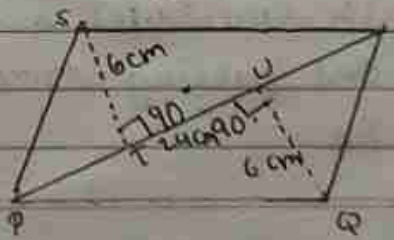
13. A table cover 4m × 2m is spread on a table. If 25 cm of the table cove is hanging all around the table, find the area of the tabletop and the cost of polishing the tabletop at ₹ 25 per square metre.

14. A poster measuring 20cm × 16cm is pasted on a sheet of a sheet of cardboard such that there is a margin of 3.5 cm along each side of the poster. Find
a) the total area of the margin.
b) the cost of cardboard used at the rate of ₹ 1.50 per sq. cm.

15 Find the area of the shaded portion from the measurements given in the figure.

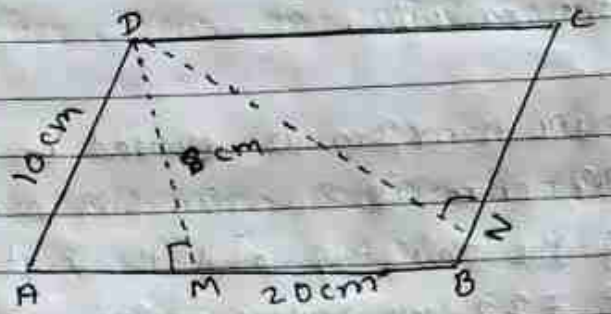


16. Find the area of a parallelogram PQRS if PR = 24 cm and QU = ST = 6cm.



17. The base and height of a triangle are in the ratio 4:5. If the area of the triangle is 90 sq m, find the measures of its base and height.

18. In a parallelogram ABCD, the length of the altitude corresponding to AB is 8cm. What is the length of the altitude corresponding to BC?



19. Draw a line segment AB = 5.5cm. Take a point P below $\overline{AB}$ and draw a line parallel to $\overline{AB}$ and passing through P.

20. Construct the following triangles.
a) An equilateral triangle with a side 5cm

21. Construct the following triangles.
a) ΔXYZ; XY = 8cm, YZ = 7cm, $\angle Y = 80^\circ$

22. Construct a ΔDEF in which DE = EF = 5cm and $\angle E = 30^\circ$. Measure $\angle D$ and $\angle F$.

23. Construct the following triangles
a) ΔDEF; EF = 6cm, $\angle E = 70^\circ$; $\angle F = 60^\circ$

24. Example 1: Construct a line parallel to a given line AB and passing through a given point P outside the line AB.

25. Find the ratio of the following.
a) 3 months to a year.

26. Which of the following forms a proportion?
a) 12, 16, 6, 8

27. Find the value of x for which the following ratios are in proportion.
a) 3:5 :: x:25

28. The ratio between two numbers is 9:5 and their sum is 448. Find the numbers.

29. Find the third proportion to 1 km 500 m and 300 m.

30. The ratio between the ~~members~~ numbers of males and females in an office is 3:4. If the number of females working in the office is 28, find the number of males working in that office.

31. A team won 5 games and lost 3 games. Find the ratio of
a) the games won to the games played.
b) the games lost to the games won.

32. In a school, the monthly fee collection of 350 students is ₹ 3,85,000. What will be the collection fee of 58 students for a month?

33. The total wages of 30 labourers were ₹ 3450 per day. What would be the total wages if 10 more labourers were added to them?

34. A car takes 7 hours to cover a certain distance at the speed of 48 Km/h. If the speed is decreased by 20 Km/h, how much time will it take to cover the same distance?

35. Gautam takes 5 hours to paint a wall and Gambhir takes 6 hours to paint the same wall. If they work together, how long will they take to paint the wall?

36. Express the following fractions as percentages.
a) $\frac{3}{4}$ b) $1\frac{7}{8}$ c) $\frac{11}{20}$

37. Express the following ratios as per cents.
a) 1:2

38. Express the following decimals as per cents.
a) 12.25

39. Express the following per cents as fractions.
a) 26% b) $3\frac{1}{4}$%

40. Express the following per cents as ratios in the simplest form.
a) 20% b) $15\frac{1}{2}$%

41. Express the following per cents as decimals.
a) 29% b) 212%

42. What per cent of
a) 60 is 600? b) 8 hrs is 2 days?

43. Find the number whose
a) 12% is 60 b) 65% is 221 c) 12.5% is 1000.

44. A 15% increase in the price of a saree is ₹115. What is the original price of the saree?

45. Pulakesh secures 630 marks out of 900 and Radhika secures 650 marks out of 1000. Whose performance is better?

46. A man travelled 50km by bus and 200 km by train. Find what per cent of the total journey he travelled by bus and what per cent by train.

47. The price of a suit is increased by 12%. If the present price is ₹896, find its original ~~pre~~ price.

48. Find the SP when:
a) CP = ₹250, Profit = ₹22
b) CP = ₹1550, Loss = ₹220

49. Find the CP when:
a) SP = ₹1250, Profit = ₹~~250~~0250
b) SP = ₹1250, Loss = ₹150

50. Complete the following table:

CP (in ₹)	SP (in ₹)	Net Profit	Profit %	Net loss	Loss %
a) 800	1100				
b) 30000				1000	
c) 50000					12

51. By selling 36 bananas, a vendor loses the sellings price of 4 bananas. Find his loss per cent.

52. Ravish bought 100 articles for ₹4000. He sold 20 of them at a gain of 5%. At what gain per cent must he sell the remaining articles so as to gain 20% on the whole?

53. A man sold two articles at ₹375 each. On the first article, he gained 25% and on the other he lost 25%. How much does he gain or lose in the whole transaction? Also, find the gain or loss per cent in the whole transaction.

54. Ritu borrowed some money at 12% per annum. She had to pay ₹180 as interest after 3 years. What sum did she borrow.

55. Calculate the interest and amount in the following cases.

	Principal in ₹ (P)	Rate P.a. [R]	Time (T)	Interest (I)	Amount (A)
a)	700	6%	2 years		
b)	1000	8%	3 years		
c)	100000	15%	2 years		

56. In how much time will a certain sum be 1.5 times the principal at 10% per annum?

57. Find the rate of interest by which a sum will triple itself in 16 years.