CLASS VII
CHAPTER – COMPARING QUANTITIES

Q.1. Express each of the following ratios in the simplest form :

(i) 27 : 72 **(ii) 12.8 : 12** **(iii)** $\frac{1}{12} : \frac{1}{16}$

(iv) $8\frac{2}{3} : 6\frac{1}{2}$ **(v) 3 : 4 :** $\frac{5}{2}$ **(vi) 2.5 : 5.5 : 7**

Q.2. Find the ratio each of the following in the simplest form :

(i) ₹ 5 to 50 paise **(ii) 15 kg to 210 g** **(iii) 30 days to 36 hours**

Q.3. Arrange the following ratios in ascending order 3 : 4, 5 : 16, 1 : 8, 7 : 12,

Q.4. (i) If A : B = 5 and B : C = 4 : 7, find A : C.

(ii) If A : B = 2 : 5 and B : C = 10 : 13, find A : B : C.

Q.4. If 3A = 4B, find A : B : C

Q.5. Two numbers are in the ratio 3 : 5. If 8 is added to each of the numbers, the ratio becomes 7 : 9. Find the numbers.

Q.6. Divide ₹ 720 in the ratio 4 : 5.

Q.7. Divide ₹ 880 in the ratio $\frac{1}{5} : \frac{1}{6}$.

Q.8. Divide ₹ 7380 in the ratio 2 : 3 : 4.

Q.9. Change the ratio in the simplest form :

(i) 75 : 60 **(ii) 12 : 13.2** **(iii)** $\frac{1}{4} : \frac{1}{6}$ **(iv)** $33\frac{1}{3}$ **: 100**

Q.10. Express each of the following ratios in the simplest form :

(i) 33 : 88 **(ii) 4.5 : 3** **(iii)** $\frac{1}{6} : \frac{1}{9}$

(iv) $6\frac{2}{3} : 7\frac{1}{2}$ **(v) 7 : 5 :** $\frac{11}{2}$ **(vi) 2.5 : 6.5 : 8**

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Q.11. Express each of the following in the simplest form .

(a) (i) ₹ 2 to 80 paise (ii) 9 m to 27 cm (iii) 3 kg to 150 g

(b) (i) 42 days to 3 weeks (ii) 1025 mL to 4075 mL (iii) ₹ 1875 to ₹ 3125

Q.12. (a) Arrange the following ratios in ascending order 1 : 7, 1 : 5, 7 : 9 and 2 : 21.

Q.13. Arrange the following ratios in descending order 7 : 12, 1 : 9, 6 : 17 and 5 : 16.

Q.14. (i) If A : B = 3 : 2 and B : C = 2 : 5, find A : C

(ii) If A : B = 3 : 7 and B : C = 14 : 19, find A : B : C

Q.15. (a) (i) If 2A = 5B = 6C, find A : B : C

(b) If 2A = 4B = 7C, find A : B : C.

Q.16. (a) Two numbers are in the ratio 7 : 11. If 7 is added to each of the numbers, find ratio becomes 1 : 2. Find the number.

(b) Two numbers are in the ratio 4 : 5. If 6 and 5 are added to the first and second numbers respectively, the ratio become 5 : 6. Find the numbers.

Q.17. (a) Divide ₹ 630 in the ratio 3 : 7.

(b) Divide ₹ 1452 in the ratio 5 : 6.

(a) Divide ₹ 3302 in the ratio $\frac{1}{7} : \frac{1}{6}$

(b) Divide ₹ 5170 in the ratio $\frac{1}{14}$: $\frac{1}{30}$

Q.18. (a) Divide ₹ 21105 in the ratio 2 : 3 : 4.

(b) Divide ₹ 3000 in the ratio 3 : 4 : 5.

Q.19. Are 3, 8, 6 and 16 in proportion?

Q.20. Find the mean proportional between 4 and 16 be x.

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Q.21. Show that

(i) 3, 4, 12, 16 are in proportion (ii) 20, 25, 30, 35 are not in proportion.

Q.22. Findthe third proportional to 8 and 12.

Q.23. Find the mean proportional to 8 and 12.

Q.24. Find the mean proportional to 8 and 12 is 18.

Q.25. If the third proportional to 4 and x is 36, find the value of x.

Q.26. For every 12 eggs that Arbind buys, 3 turn out to be rotten. At this rate, how many rotten eggs will he have if he buys 100 eggs?

Q.27. Show that :

(a)(i) 5, 6, 10, 12 are in proportional. (ii) 7, 8, 11, 12 are not in proportion.

(b)(i) 15, 32, 135, 225 are not in proportion.

(ii) 20, 30, 40, 50 are not in proportion.

Q.28. Find x, if

(a) (i) 30 : 40 : : x : 60 (ii) 36, 48, x are in continued proportion.

(b) (i) 2 : 9 : : x : 27 (ii) x, 12, 36 are in continued proportion.

Q.29. (a) Find the third proportional to 12 and 18.

(b) Find the fourth proportional to 33, 44, 66.

Q.30. (a) Find the mean proportional to 16 and 25.

(b) Find the mean proportional to 36 and 49.

Q.31. (a) If the third proportional to 9 and x is 18, find the value of x.

(b) If the third proportional to x and 25 is 5, find the value of x.

Q.32. For every dozen bananas that I buy, 2 turn out to be rotten. At this rate, how many rotten bananas will I have if I buy 180 bananas?

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Q.33. A machine makes electric bulb, in which 3 out of every 65 are found to be faulty. It made 45 faulty bulbs in a day. How many good bulbs were made that day?

Q.34. 8 chocolates costs ₹ 40. Find the cost of 15 such chocolates.

Q.35. A bike can cover a distance of 1536 km on 24 litres of petrol. How far can it travel on 15 litres of petrol?

Q.36. 25 workers earn ₹ 2250 per day. What will be the earning of 20 workers per day at the same rate?

Q.37. The length of the shadow of a 4m high pole, at a certain time, is 5.2m. What is the height of pole whose shadow at that time is 91m long?

Q.38. If 24 men can finish a piece of work in 25 days, how many days will 20 men take to do it?

Q.39. A military camp has provisions for 660 men to last for 25 days. How many men must be transferred to another camp so that the food lasts for 30 days?

Q.40. (a) If 36 men can finidh a piece of work in 64 days, how many days will 48 men take to do it?

(b) A factory requires 24 machines to produce a given number of articles in 143 days. How many machines would be required to produce the same number of article in 78 days?

Q.41. (a) A military camp has provisions for 300 men to last for 90 days. How many men must be transferred to another camp so that the food lasts for 100 days?

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(b) 1000 soldiers in a fort had enough food for 20 days. But some soldiers were transferred to another fort and the food lasted for 25 days. How many soldiers were transferred?

Q.42. Convert each of the following into a percentage :

(i) $\frac{1}{8}$ **(ii)** $\frac{2}{7}$ **(iii) 1 : 4 (iv) 2 : 3 : 5**

Q.43. Convert each of the following into a fraction/ ratio :

(i) 50% (ii) $16\frac{2}{3}\%$ **(iii)** $12\frac{1}{2}\%$ **(iv) 6.25%**

Q.44. Convert each of the following decimals into a percentage.

(i) 0.02 (ii) 0.65 (iii) 2.1 (iv) 12.35

Q.45. Find

(i) 15% of 250 (ii) 20% of ₹ 2500

(iii) 1% of 1 hour (iv) 75% of 1 kg

Q.46. Find the whole quantity if

(i) 5% of it is 600 (ii) 40% of it is 500 km

Q.47. Out of 15000 voters in a constituency, 60% voted. Find the percentage of voters who did not vote. Can you now find how many actually did not vote?

Q.48. What percentage is

(i) ₹ 54 of ₹ 180 (ii) 4 litres of 25 litres

(iii) 50 paise of ₹ 8 (iii) 81 km of 1800 km

Q.49. What amount is 15% more than ₹ 1200?

Q.50. Convert each of the following into a percentage :

(a) (i) $\frac{5}{4}$ **(ii)** $\frac{3}{40}$ **(iii) 3 : 1 (iv) 1 : 2 : 5**

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Q.51. Convert each of the following into a fraction/ratio :

(a) (i) 25% **(ii)** $8\frac{2}{6}\%$ **(iii)** $3\frac{4}{12}\%$ **(iv) 12.5%**

Q.52. Convert each of the following decimals into a percentage :

(a) (i) 0.05 **(ii) 0.72** **(iii) 1.52** **(iv) 7.56**

(b) (i) 0.07 **(ii) 0.58** **(iii) 2.78** **(iv) 12.5**

Q.54. Convert each of the following percentage to decimal :

(a)(i) 8% **(ii) 40%** **(iii) 37%** **(iv) 125%**

(b)(i) 6% **(ii) 35%** **(iii) 49%** **(iv) 247%**

Q.55. Find the whole quantity if:

(a)(i) 12% of it is ₹ 1080 **(ii) 17% of it is 2499**

(b)(i) 70% of it is 14 minutes **(ii) 8% of it is 40 litres**

Q.56. (a) Meeta saves ₹ 400 from her salary. If this is 10% of her salary. What is her salary?

(b) A local cricket team played 20 matches in one season. It won 25% of them. How many matches did they win?

Q.57. What percent is

(i) ₹ 76 of ₹ 190 **(ii) 8 litres of 32 litres**

(iii) 80 paise of ₹ 20 **(iv) 168 km of 2400 km?**

Q.58. What amount is 20% mote than ₹ 1500?

Q.59. A school team won 10 games this year against 8 games own last year. What is the percent increase?

Q.60. The population of a city decreased from 25000 to 24500. Find the percentage decrease.

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Q.61. A number is increased by 20% and the increased number is decreased by 20%. Find the net increase or decrease percent.

Q.62. 36 men can do a piece of work in 25 days then in 60 days 15 men finish it (true/ false)

Q.63. Ritesh sells his scooter for ₹ 18,000 making a profit of 20%. The cost price of the scooter was ₹ 14,600. (True/false)

Q.64. What least number should be added to each term of the ratio 7 : 13 to make the ratio 2 : 3?

Q.65. Rohit purchased an article for ₹ 2400 and sold it for a profit of 20%. What is the selling price of the article?

Q.66. Convert $\frac{12}{16}$ to percent.

Q.67. Out of 32 students, 8 are absent. What percent of the students are absent?

Q.68. If the cost price of 12 pencils is equal to selling price of 15 pencils, then find t loss percent.

Q.69. At simple interest a sum becomes $\frac{8}{5}$ of itself in 5 years. Find the rate of interest.

Q.70. x of 75 is 9, then find the value of x.

Q.71. What percent of a day is 72 minutes?

Q.72. If 21 cows eat as much as 15 buffaloes, how many cows will eat as much as 35 buffaloes?

Q.73. Rahul bought a sweater and saved ₹ 20 when a discount of 25% was given. What was the price of the sweater before the discount?

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Q.74. The cost of a flower vase is ₹ 120. If the shopkeeper sells it at a loss 10%, find the price at which it sold.

Q.75. Selling price of a toy car is ₹ 540. If the profit made by shopkeeper is 20%, what is the cost price of this toy?

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