

Class Test 2 »



Answer all questions. Show your working clearly.

1. At a sports match, the ratio of men to women to children was 8 : 5 : 2. There were 1620 more men than children.
 - (a) Find the number of women at the match. [1]
 - (b) After more women and children came to the match, the new ratio of men to women to children became 9 : 7 : 3.
 - (i) How many more children came to the match? [2]
 - (ii) Find the total number of spectators at the match. [1]

2. Mr Tan drove from Singapore to Kuala Lumpur. He started his journey from Singapore at 09 30, and drove $\frac{3}{5}$ of the journey until he reached a resting stop at 12 30. After resting for 45 minutes, he completed the remaining journey and reached Kuala Lumpur at 15 15.
 - (a) Given that his average speed of his whole journey was 86 km/h, find the distance he travelled before he reached the resting stop. [2]
 - (b) What was his average speed for the second part of his journey? [2]

3. Two taps are used to fill an empty tank. Water from the first tap flows at a rate of 3.7 l per minute, while the other tap flows at a rate of 1.8 l per minute. The capacity of the tank is 2750 l.
 - (a) If both taps are turned on at the same time, how long does it take to fill the tank? [1]
 - (b) If a third tap is used at the same time, the empty tank can be filled in 3 h 40 min. Find the rate of water flow from the third tap. [1]

Chapter 8 • Ratio, Rate and Speed

4. Felicia wants to buy some plain flour. There are two kinds of flour for sale at the provision shop.

Brand *X*: 1.2 kg for \$6.60
 Brand *Y*: 800 g for \$5.68

- (a) How much does 500 g of flour cost for
- (i) brand *X*, [1]
 - (ii) brand *Y*? [1]
- (b) Which brand offers better value for money? Why? [1]
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5. Store *A*: A television set is priced at \$2240. There is an 18-month monthly instalment plan at an interest rate of 6% per annum with a downpayment of \$650.
 Store *B*: A television set is priced at \$2108. There is a 2-year monthly instalment plan at an interest rate of 8% per annum with a downpayment of \$421.
 Dylan wants to purchase a television set on hire purchase.
- (a) Find the monthly instalment, correct to the nearest cent, at
- (i) store *A*, [2]
 - (ii) store *B*. [2]
- (b) Which store should Dylan purchase the television set from if he wants to get the cheaper deal? [2]
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6. In a bakery, 4 chefs would take 15 hours to bake 80 cakes. 6 hours after the chefs started baking, 2 more chefs joined them. Given that all the chefs work at a constant rate, how much time did all the chefs take to bake 80 cakes? [3]

7. Victoria bought a refrigerator on hire purchase. The refrigerator was priced at \$2305. She paid a downpayment of \$445 and the remaining by monthly instalments of \$91.45 for 2 years.
- (a) How much more money did she have to pay in total for hire purchase? [2]
 (b) What is the interest rate of the monthly instalments? [2]
8. Edison buys a massage chair on hire purchase. The price of the massage chair is \$7250. He has to pay 20% as downpayment and pays the remaining amount in monthly instalments at an interest rate of 6.5% per annum. If he pays \$224.75 per month, how many months does he have to pay his instalments for? [3]
9. Matthew deposits \$5200 into an account which earns him a simple interest of 3% per annum. 18 months later, he deposits \$2800 into another account which earns him a simple interest of 3.5% per annum. How much money will he have in total if he withdraws all his money from both accounts 3 years after his first deposit? [3]
10. Before leaving for his holiday in Taiwan, Mr Ho exchanged S\$3672.20 at an exchange rate of NT\$100 = S\$4.27.
- (a) (i) How much New Taiwan dollars did he receive? [1]
 (ii) He needed an additional NT\$12 000. How much Singapore dollars did he have to exchange? [1]
 (b) After exchanging the additional NT\$12 000, he spent NT\$67 000 during his trip. He exchanged the remaining money back to Singapore dollars at an exchange rate of NT\$100 = S\$4.15. How much Singapore dollars did he receive? [1]