The City School

North Nazimabad Boys Campus

Topic: Mixed Concept (Paper II)

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Subject: Mathematics

Grade: 09

Q1: Solve the following equations, where possible giving your answers correct to 2 decimal places where necessary.

1. $\frac{5}{x+1}+ \frac{8}{x+3}=5$ b. (3*x*-1)(2*x*+5) = (4 - *x*2)
2. $\frac{8}{x-1}+ \frac{3}{x-2}=3$ d. 5*x*2+4*x*+5 = 3(1-3*x*)

Q2: A man transferred US $ 50,000 to a United State Bank when US$ 1 = Singapore $1.84. How much amount he deposited.

Q3: Two vertical posts are 14m apart. One is 3m high and the other is 1.6m high. Find

1. the distance between the top of two posts
2. the angle made by the line joining the tops of the two posts with the horizontal.

Q4: The width of a rectangle is (x + 2)cm. The perimeter of the rectangle is 6(x+1)cm. The area of the rectangle is 18cm2

Show that 2x2 + 5x -16 = 0

Q5: The table shows the marks obtained in tests of English and Mathematics by 140 students.



1. Copy and complete the cumulative frequency table below



1. Using a scale of 2 cm to represent 20 marks, draw a horizontal *x*-axis for 0 ≤ *x* ≤ 100.

Using a scale of 2 cm to represent 20 pupils, draw a vertical axis for values from 0 to 140.

On your axes, draw a label both smooth cumulative frequency curve to illustrate this information.

1. Use your curves to find
2. the upper and lower quartile mark for English and Mathematics.
3. the inter quartile range for English and Mathematics.
4. State, with a reason, which you think is the easier test.

Q6: A solid metal ball of radius 3cm is melted and the metal obtained is recast to form a solid circular cone of radius 4cm. Find the height of the cone.

Q7: If a is inversely proportional to the cube of b and that a = 5 when b = 6, find

1. The equation connecting a and b
2. The value of a when b=3
3. b when a =135

Q8: Ali walked a distance of 25km from A to B, at an average speed of *x* km/hr. Write down an expression for the time in hours, he took for the journey from A to B.

He returned by the same route but his average speed was 2km/hr less. Write down an expression for the time, in hours, he took the journey from A to B.

Given that the difference between the two times was 35minutes, form an equation in *v* and show that it reduced to 7*x*2-14*x*-600=0

Solve the above equation correct to 2 decimal places. Hence find the total time taken for the men to walk , giving your answer correct to the nearest minute