The City School

**North Nazimabad Boys Campus**

**Second Monthly Test Session 2019 – 20**

**Class – 9**

Time: 35 Minutes Math Marks 30

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Sec: \_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Note: Calculator is not allowed.**

**Q1. If ax = 5, Find:**

1. **a2x  /1 ii) a-x /1**

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**Q2. Simplify:**

1. **/2 b)** $\frac{3a²}{10bc} ÷ \frac{9a}{5bc²} $ **/2**

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**Q3: y is inversely proportional to the square of x when x =2 and y = 3. /3**

1. **Find the equation connecting x and y.**
2. **Find the value of x when y is 48.**

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**Q4: Write 54 as the product of its prime factors. /1**

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**Q5: Write the number 360 million in standard form. /1**

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**Q6: Evaluate:**

1. **40**$ - $ **4-2 /1**

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1. $(\sqrt{16}$**)3 /2**

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**Q7: Find the value of k in each of the following:**

1. $\sqrt{27}$ **= 3k /2**

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1. $(\frac{1}{4})$**-3 = 2k  /2**

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**Q8. If P = 5** $×$ **109 and q = 9** $×$ **10-16 , Expressing each answer in standard form, find**

1. **p** $×$ **q /1**

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1. $\sqrt{q}$ **/2** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Q9: Given that** $T=2π \sqrt{\frac{L}{g}}$**, express g in terms of** $π, T and L$**. /2**

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**Q10: Simplify** $\frac{5x^{2}-20}{10x^{2}-10x -20}$ **/2**

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**Q11: Express as a single fraction** $\frac{3}{4x} + \frac{2}{3y}$ **/1**

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**Q12: A man who is 1.8m tall stands on horizontal ground 50m from a vertical tree. The angle of elevation of the top of the tree from his eyes is 30o. Use as much of the information below as is necessary to calculate an estimate of the height of the tree. Give the answer to a reasonable degree of accuracy. [sin 30o = 0.5, cos 30o = 0.866, tan 30o = 0.577] /4**

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