

## Math Quiz |

Lower Secondary  
Stage (6-8)

Name: Answer key  
Date: 25 / 9 / 2023

Subject: Math  
Class: Grade 8 ( )  
Time: 15 minutes

Question 1: Prove that the recurring decimal  $0.5\dot{3} = \frac{8}{15}$  (2 marks)

$$\begin{aligned} x &= 0.5\dot{3} \\ 10x &= 5.3\dot{3} \\ 10x - x &= 5.3\dot{3} - 0.5\dot{3} \\ 9x &= \frac{4.8}{9} \\ x &= \frac{4.8 \times 10}{9 \times 10} = \frac{48 \div 6}{90 \div 6} = \frac{8}{15} \end{aligned}$$

Question 2: Work out the answers to these without using a calculator. Give your answer in simplest form. (8 marks)

a.  $7\frac{3}{15} - 4\frac{1}{12} - 1\frac{3}{4} =$

$$\frac{4 \times 108}{4 \times 15} - \frac{49 \times 5}{12 \times 5} - \frac{7 \times 15}{4 \times 15}$$

$$\frac{432}{60} - \frac{245}{60} - \frac{105}{60}$$

$$\frac{187}{60} - \frac{105}{60} = \frac{82}{60} = \frac{41}{30} = 1\frac{11}{30}$$

$$b. 4\frac{1}{2} + 3\frac{3}{8} =$$

$$4 + 3 = 7$$

$$4 \times \frac{1}{2} + \frac{3}{8}$$

$$\frac{4}{8} + \frac{3}{8} = \frac{7}{8}$$

$$\boxed{4\frac{7}{8}}$$

$$c. 2\frac{2}{3} \times 4\frac{7}{8} =$$

$$\frac{8}{3} \times \frac{39}{8} = \frac{13}{1} = \boxed{13}$$

$$\text{or } 4 \times \frac{9}{2} + \frac{27}{8}$$

$$\frac{36}{8} + \frac{27}{8} = \frac{63}{8}$$

$$\frac{63}{8} = 7\frac{7}{8}$$

$$d. 8\frac{2}{5} \div 3\frac{1}{3} =$$

$$\frac{42}{5} \div \frac{10}{3}$$

$$\frac{42}{5} \times \frac{3}{10} = \frac{63}{25} = 2\frac{13}{25}$$