

Form 2 June Mathematics Memo

Question 1

$$1.1.1) 11 ; 16 \quad \checkmark \checkmark$$

$$1.1.2) 25 ; 36 \quad \checkmark \checkmark$$

$$1.1.3) 81 ; 121 \quad \checkmark \checkmark$$

$$1.1.4) -2 ; -5 \quad \checkmark \checkmark$$

$$1.1.5) 8 ; 13 \quad \checkmark \checkmark$$

$$1.2.1) 10 \quad \checkmark$$

$$1.2.2) 12 \quad \checkmark$$

$$1.2.3) 14 \quad \checkmark$$

$$1.3.1) 16 \quad \checkmark$$

$$1.3.2) 27 \quad \checkmark$$

$$1.3.3) \sqrt{2} \quad \checkmark$$

$$1.3.4) 0.131131 \quad \checkmark$$

$$1.3.5) 3 \quad \checkmark$$

$$1.4) 2^5 \times 3^2 \quad \checkmark \checkmark$$

Question 2

$$2.1) \frac{1}{3} ; 0.25 ; \frac{15}{20} ; \frac{4}{5} \quad \checkmark \checkmark \checkmark \checkmark$$

$$2.2.1) \frac{3}{10} \times \frac{5}{27} \times \frac{2}{3} \quad \checkmark \checkmark \checkmark$$
$$= \frac{1}{27} \quad \checkmark$$

$$2.2.2) \frac{78 + 65 - 80}{90} \quad \checkmark \checkmark \checkmark$$
$$= \frac{63}{90} \quad \checkmark$$

$$2.2.3) 0.0005 \checkmark$$

$$2.2.4) 2.4 \checkmark$$

$$2.2.5) \sqrt{\frac{36}{10000}} \checkmark$$

$$= \frac{\sqrt{36}}{\sqrt{10000}} \checkmark m$$

$$= \frac{6}{100} \checkmark$$

$$= \frac{3}{50} \checkmark$$

$$2.3) 3.125 \checkmark$$

Question 3

$$3.1.1) 1.8 \text{ kg} : 3.6 \text{ kg} \quad \text{or} \quad 1800 \text{ g} : 3600 \text{ g} \checkmark m$$
$$1 : 2 \checkmark m$$

$$3.1.2) 350c : 25c$$

$$14 : 1 \checkmark m$$

$$3.1.3) \frac{57}{27} : \frac{24}{27} \checkmark m$$

$$54 : 24 \checkmark$$

$$3.2.1) 15000 : 4800 \checkmark m$$

$$25 : 16 \checkmark$$

$$3.2.2) 15000 \times \frac{4}{3} \checkmark m = 20000 \text{ rhino} \checkmark$$

$$3.2.3) 5400 \times \frac{2}{3} \checkmark m = 3600 \checkmark$$

$$\textcircled{1} \frac{3}{10} \times 3600 = 1080 \checkmark$$

$$\textcircled{2} \frac{5}{10} \times 3600 = 1800 \checkmark$$

$$\textcircled{3} \frac{2}{10} \times 3600 = 720 \checkmark$$

$$\begin{aligned}
 3.3) \text{ Speed} &= \frac{\text{distance}}{\text{time}} \\
 &= \frac{60}{2} \\
 &= 30 \text{ km/hr}
 \end{aligned}$$

$$\begin{aligned}
 \text{speed} &= \frac{\text{distance}}{\text{time}} \\
 &= \frac{75}{0.5} \\
 &= 150 \text{ km/hr}
 \end{aligned}$$

$$\begin{aligned}
 30 &: 150 \\
 1 &: 5
 \end{aligned}$$

$$\begin{aligned}
 3.4) \text{ speed} &= \frac{\text{distance}}{\text{time}} \\
 &= \frac{240+120+10}{4+3+3} \\
 &= \frac{370}{10} \\
 &= 37 \text{ km/hr}
 \end{aligned}$$

$$3.5) R300 \times \frac{10}{100} = R30$$

$$\begin{aligned}
 3.6) 1500 \times \frac{15}{100} &= 225 \\
 1500 + 225 &= 1725 \text{ in 2014}
 \end{aligned}$$

Question 4

$$4.1) 2 \times -2 = -4$$

$$4.2) 16 \div 2 + 10 = 8 + 10 = 18$$

$$4.3) 4 - 9 + 1 = -4$$

$$4.4) 17 - 99 + 12 + 13 = -57$$

$$4.5) 10 + 4 - 6 = 8$$

Question 5

$$5.1.1) 2 + 4 \times 5$$

$$5.1.2) 3h + 15$$

$$5.1.3) x + y > pq$$

$$5.1.3) 7a \checkmark$$

$$5.1.4) 16w/3y \checkmark$$

$$5.2.1) 6x^2 + 3x - 1$$

$$(+)$$
$$\underline{2x^2 - x - 4}$$

$$8x^2 + 2x - 5 \checkmark$$

$$5.2.2) 8x^2 + 2x - 5$$

$$(-) \underline{-3x^2 + 7x + 2}$$

$$5x^2 - 5x - 7 \checkmark$$

$$5.2.3) 3x^2 + 7x + 2$$

$$= 3(6)^2 + 7(6) + 2 \checkmark$$

$$= 3(36) + 42 + 2$$

$$= R152 \checkmark \text{ for his old bicycle}$$

$$5.3.1) P = 2x + 2y \checkmark$$

$$5.3.2) P = 2x + 2y$$

$$= 2(2) + 2(6) \checkmark$$

$$= 4 + 12$$

$$= 16 \checkmark$$

Question 6

$$6.1.1) 4u^2v^3 \checkmark \text{ and } -2u^3v^2 \checkmark$$

$$6.1.2) 2xz^2y \checkmark \text{ and } -11x^3y^2z \checkmark$$

$$6.2.1) = 3ab - 2ab + 2ab \checkmark$$

$$= 3ab \checkmark$$

$$\begin{aligned} 6.2.2) &= -7x^2 + 6x^2 \checkmark \checkmark \checkmark \\ &= -1x^2 \checkmark \checkmark \end{aligned}$$

$$\begin{aligned} 6.2.3) &= 16ab - 16a + 1a \checkmark \checkmark \checkmark \\ &= 16ab - 15a \checkmark \checkmark \end{aligned}$$

$$6.2.4) = -3a - 9mn \checkmark \checkmark \checkmark$$

$$\begin{aligned} 6.2.5) &= -12 + 6ac + 9 \checkmark \checkmark \checkmark \\ &= -3 + 6ac \checkmark \checkmark \end{aligned}$$

Question 7

$$7.1) = xy \checkmark$$

$$7.2) = a^6 b^9 e^{12} \checkmark$$

$$7.3) = -12m^5 \checkmark \checkmark \checkmark$$

$$7.4) = -g^2 \checkmark \checkmark$$

$$7.5) = +3a^4b \checkmark \checkmark \checkmark$$

$$\begin{aligned} 7.6) &= \frac{a^{10} b^{20} \times ab^4}{a^4 b^{24}} \checkmark \checkmark \checkmark \\ &= \frac{a^{11} b^{24}}{a^4 b^{24}} \\ &= a^2 \checkmark \end{aligned}$$

Question 8

Big number = $x + 2$

Small number = x

$$6x = 2(x + 2) + 2$$

$$6x = 2x + 4 + 2$$

$$4x = 6$$

$$x = \frac{6}{4}$$

$$= \frac{3}{2} / 1.5$$

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