Unit 4

Q4) $3\frac{1}{3} \times 4\frac{2}{5}$

$= \frac{\cancel{10}^{2}}{3} \times \frac{22}{\cancel{5}_{1}}$ ← improper (M1)

$= \frac{44}{3}$

multiplying (M1)

$3\overline{)44}$ → 14, 3, 14, 12, 2

$= 14\frac{2}{3}$ (A1)

Not simplest form only get 2 marks

Q5) crops $\frac{4.5}{15}$ (M1) $\frac{4.5}{15} \times \frac{5}{8}$

wheat: $\frac{\cancel{4.5}^{1.5}}{\cancel{15}_{3}} \times \frac{5}{8}^{1} = \frac{1.5}{8}$

As percentage

$\frac{1.5}{8} \times 100\% = 18.75\%$

(P1) (A1)

15 acres

4.5 acres

* out of $\frac{4.5}{15}$

* of $\frac{5}{8}$ ×

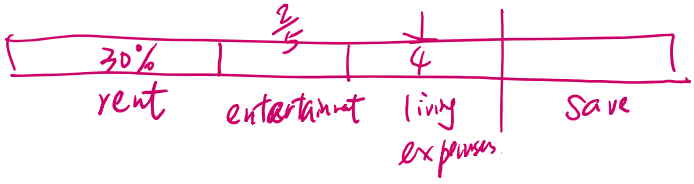
Q6) $3\frac{1}{3} \div 4\frac{3}{4}$

$= \frac{10}{3} \div \frac{19}{4}$ (M1)

$= \frac{10}{3} \times \frac{4}{19}$

$= \frac{40}{57}$ (A1)

Q7)



$\frac{1}{4} = £3600$

$\frac{4}{4} = £3600 \times 4$ ← (M1)

$= £14400$

Rent : 30%

entertainment : $\frac{2}{5} = 40\%$ (B1)

Living : $\frac{1}{4} = 25\%$

$\therefore$ save 5% ← (M1)

(M1) $£14400 \times \frac{5}{100}$

$= £144 \times 5$

$= £720$ (A1)

Q8)

Volume of what Martin needs

$4m \times 11m \times 0.06m$ (M1)

$= 2.64\ m^3$

for using same unit to find volumn

How many bag he needs?

$2.64\ m^3 \div 0.4m^3$ (M1)

$= 6.6$ Bags

$=$ 7 Bags

Total cost with discount: (M1)

$£38 \times 7 \times 0.7$ (M1)

$=$ £186.20

(A1)

Q9)

(M1)

		morning	Afternoon	Total
$\frac{2}{5}$	Boys	17	7	$60 \times \frac{2}{5} = 24$ (M1)
$\frac{3}{5}$	Girls	28	8	$60 \times \frac{3}{5} = 36$ or
	Total	$60 \times \frac{3}{4} = 45$ (M1)	15	60

(M1) to find $\frac{1}{5} = 12$

28 Girls

(A1)

Q10) Calculator paper:

a) Reciprocal of 1.25 ← $\frac{1.25}{1}$

$= \frac{1}{1.25}$

$= 0.8$ (B1)

b) $\frac{9.6}{\sqrt{5} - 1.7}$

$= \frac{9.6}{0.53606}$ ← (B1)

$=$ 17.91 ← (A1)

Q12)

÷12.30 (M1)

Exchange Rate £1 : HK$ 12.30

£258.50 : HK$ 3179.55

(M1) ÷12.30

£285 − £258.50

= £26.50 cheaper than in London (A1 including currency £)

OR HK $325.95 cheaper

Q14) $x = 0.15\dot{5}$

✓ $100x = 15.555$
✓ $10x = 1.555$
$x = 0.155$

(M1 for 2 correct recurring)

(M1 for correct subtraction)

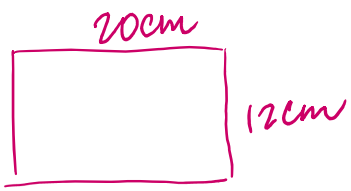
$90x = 14$

$x = \frac{14}{90}$

$x = \frac{7}{45}$ (A1)

* 1 mark for $\frac{15}{99}$ with no working

(Q5) Exam style



Formula to Remember:

$$\%\ \text{change} = \frac{\text{change}}{\text{original Amount}} \times 100\%$$

length

$20 \times 1.3 = 26\text{cm}$

width

$12 \times 1.1 = 13.2\text{cm}$

New Area:

$26 \times 13.2 = 343.2\text{cm}^2$

original Area

$20 \times 12 = 240\text{cm}^2$

percentage increase: $\frac{343.2 - 240}{240} \times 100\% = 43\%$

Exam style

(Q9)

A : B : C : D

2 : 3

×7 (4 : 7 : 2) ×3

double D as B is 4 now.

14 : 12 : 21 : 6

No Calculator

Work out

$$3^{-4} + 3^{-2}$$

$$= \frac{1}{3^4} + \frac{1}{3^2}$$

$$= \frac{1}{81} + \frac{1}{9}$$

$$= \frac{1}{81} + \frac{9}{81}$$

$$= \frac{10}{81}$$

No Calculator

Work out:

$$\frac{\frac{2}{5} + \frac{3}{8}}{1\frac{5}{9}}$$

$$= \left(\frac{16}{40} + \frac{15}{40}\right) \div \frac{14}{9}$$

$$= \frac{31}{40} \times \frac{9}{14}$$

$$= \frac{279}{560}$$