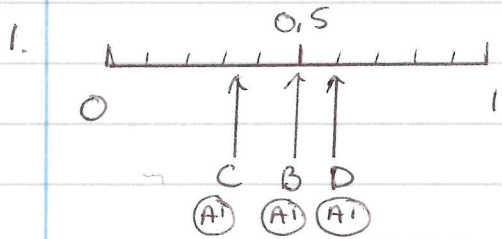


1st Year Assessment  
Summer 2017 Paper 1

Section A (25 marks.)



2.  $\frac{1}{3} \times 300 = 100$   
(m) (AI)

or  $300 \div 3 = 100$   
(m) (AI)

3. 16.50 (AI)

4. a) -7 b) -20 c) -4 d) 3  
(AI) mark each.

5 a) 18, 22 (AI) for both b) 16, 22  
(AI) (AI)

6i)  $2 - 1 + (-4) = -3$  (m) (AI) ii)  $4 - (2 \times 2) = 4 - 4 = -8$   
(m) (AI)

7.  $\frac{8}{100} = \frac{2}{25}$   
(m) (AI)

8.a)  $\frac{5}{6} - \frac{3}{8} = \frac{20}{24} - \frac{9}{24} = \frac{11}{24}$   
(AI) (AI)

(m) common denominator

8b)  $\frac{14}{5} \times \frac{3}{4} = \frac{42}{20} = 2 \frac{1}{10}$   
(m) (AI) (AI)

multiplies numerators / denominators

or  $2 \times \frac{3}{4} = \frac{6}{4}$  (m) or  $\frac{4}{5} \times \frac{3}{4} = \frac{12}{20}$  (m)

$\frac{6}{4} + \frac{12}{20} = \frac{30}{20} + \frac{12}{20} = \frac{42}{20} = 2 \frac{1}{10}$   
(AI) (AI)

Paper one

Section B (25 marks.)

9.  $\frac{2}{7} \times 21 = 6$   $21 - 6 = \underline{15m}$

(m1)

(A1)

(m1)

(A1)

or  $\frac{5}{7} \times 21 = 15$

(m2)

(m1)

(A1)

10.  $(5 \times 2) + (3 \times 2)$  (m1) [ or  $(2 \times 2) + (3 \times 4)$  or  $(4 \times 5) - (2 \times 2)$  ]  
 $= 10 + 6 = 16$  (A1) (m1) (m1)

$16^3 \times 8 = 128 \text{ cm}^3$

(m1)

(A1)

11a)  $2n$  (A1)    b)  $3$  or  $3n$  (m1)     $3n+1$  (A1)    c)  $\frac{2n}{3n+1}$  (A1)

12a)  $V = 30 \times 20 \times 15 = 9000 \text{ cm}^3$  (m1) (A1)     $1.8 \text{ kg} = 1800 \text{ g}$  (m1)

density =  $\frac{1800}{9000} = 0.2 \text{ g/cm}^3$  (A1)  
(m1)

b) area of  $\Delta = \frac{1}{2} \times 10 \times 20 = 100 \text{ cm}^2$  (A1)  
(m1) attempt to find area  $\Delta$

Volume =  $100 \times 30 = 3000 \text{ cm}^3$  (A1)  
 mass = density  $\times$  volume =  $0.2 \times 3000 = 600 \text{ g}$  (m1)

13

$\frac{10}{25} = 40\%$      $\frac{4}{10} = 40\%$      $\frac{12}{40} = 30\%$      $\frac{3}{10}$  (m1) attempt to convert to easier values to compare

Bowl A

(m1) converts information to probabilities. Bowl B

(A1) Both probabilities correct.

$\therefore$  he should choose bowl (A) as probability is greater. (A1) ✓

1st Year assessment  
Summer 2017 Paper 2

## Section A (30 marks)

NOT IN 2018

1a)

$6\text{cm} \pm 2\text{mm}$  (A1)

$30^\circ \pm 2^\circ$

Fully correct diagram (A1)

b)  $AC = 3.1 - 3.3\text{cm}$  (A1)

or  $40^\circ \pm 2^\circ$  (A1)

2a)  $\frac{1}{2}$  or 0.5

b)  $\left(\frac{10}{30}\right) = \frac{1}{3}$  or 0.33

c)  $\frac{4}{30}$  or  $\frac{2}{15}$  d)  $\frac{6}{30} = \frac{1}{5}$

(A1) each (simplified)

3  $5 \div 8 = 0.625$

(A1)

$$\begin{array}{r} 0.625 \\ 8 \overline{) 5.000} \end{array}$$

(m1) division - reasonable attempt

4a)

$$\begin{array}{r} 5.2 \\ -2.8 \\ \hline 2.4 \end{array}$$

(m1)

2.4

(A1)

b) 40.5

(A1)

c)  $\frac{8.24}{2} = 4.12$

2

$4.12 \div 10 = 0.412$

(m1) attempt

(A1)

to divide by 2 and 10 or bustops

c)

$$\begin{array}{r} 0.1757 \\ 9 \overline{) 1.58163} \end{array}$$

(m1) attempt to divide

(A1)

5 a =  $108^\circ$  (A1) because angles on a straight line add to  $180^\circ$  (A1).c =  $50^\circ$  (A1) because an isosceles triangle has 2 equal angles (A1) and angles in a triangle add to  $180^\circ$  (A1)

6 a)  $7p - 12p$  (A1) =  $-5p$  (A1)

b)  $2m + 5n - 10$  (A2) (-1 e e 0 0).



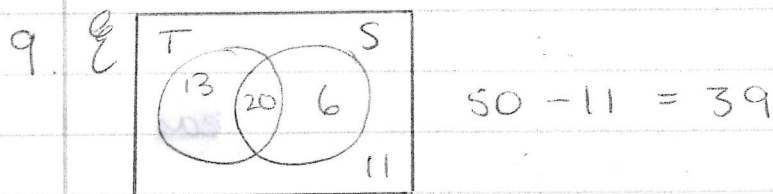
7a)  $2x = -10$  (m1) attempt to subtract 1.  
 $x = -5$  (A1)

b)  $3 = 2p - 7$  (m1) attempt to isolate term in p.  
 $10 = 2p$   
 $5 = p$  (A1)

Section B (20 marks.)

8  $|\frac{1}{8} \div |\frac{1}{2} = \frac{1}{8} \div \frac{1}{2} = \frac{1}{8} \times \frac{2}{1} = \frac{2}{8} = \frac{1}{4}$  (A1)

(m1) divides (m1) changes to improper (m1) invert and times (A1) (or  $\frac{1}{8} \times \frac{2}{1} = \frac{2}{8} = \frac{1}{4}$  simplifies (A1))



(A1) intersection = 20 (m1) reasonable attempt at diagram.  $\therefore$  26 students like squash (A1)


10.  $30 \div 5 = 6$   $6 \times 4 \times 7 = 168$  packets (A1)

$24 \div 6 = 4$  (A1)

$28 \div 4 = 7$

(m1)

(m1) finds both volumes (A1) both correct  $30 \times 24 \times 28 = 20160$   $5 \times 6 \times 4 = 120 \text{ cm}^3$   
 $20160 \div 120 = 168$  packets (A1)

11. a)  (A1)

b) 25 (A1)

c)  $-4$  or  $4n$  (m1)

$-4n + 14$  (A2)

12.  $9 \times 46 = 414$  } (m1) attempts both multiplications  
 $10 \times 50 = 500$

$500 - 414 = 86$  (A1)

(m1)