

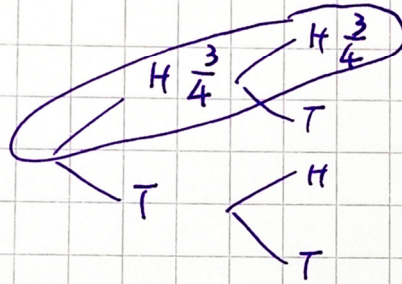
Unit 10

Q6) a) Sharif because he did the greatest number of throw. His result is more reliable.
(B1)

b) No. It was only correct for Paul.
(A1) However, the proportion for others are not twice.

Start working with proportions → (B1) $\frac{34}{8} = 4.25$ | $\frac{66}{12} = 5.5$ | $\frac{80}{40} = 2$ | $\frac{120}{40} = 3$

c) Total = Heads = 300
400 Tails = 100
PI use total number OR use Sharif's data.



$$\frac{3}{4} \times \frac{3}{4} = \frac{9}{16}$$

(A1)

Q9) Alfie assumes that the events are independent.

Q1) Red $\frac{x}{20}$ (M1) use 20 as denominator.
yellow $\frac{20-x}{20}$
Answer: $\frac{20-x}{20}$
(A1)

Q3) (M1) or
→ $\frac{56}{200} = \frac{x}{550}$

(M1) OR
 $\frac{56}{200} \times 550$
→ $200x = \del{30800} 30800$
 $x = \frac{308000}{200}$
 $x = \del{154} 154$ (A1)

Q12)

$$\frac{\text{£1}}{3} \times \frac{\text{£1}}{2} \times \frac{50p}{7} = \frac{42}{720}$$

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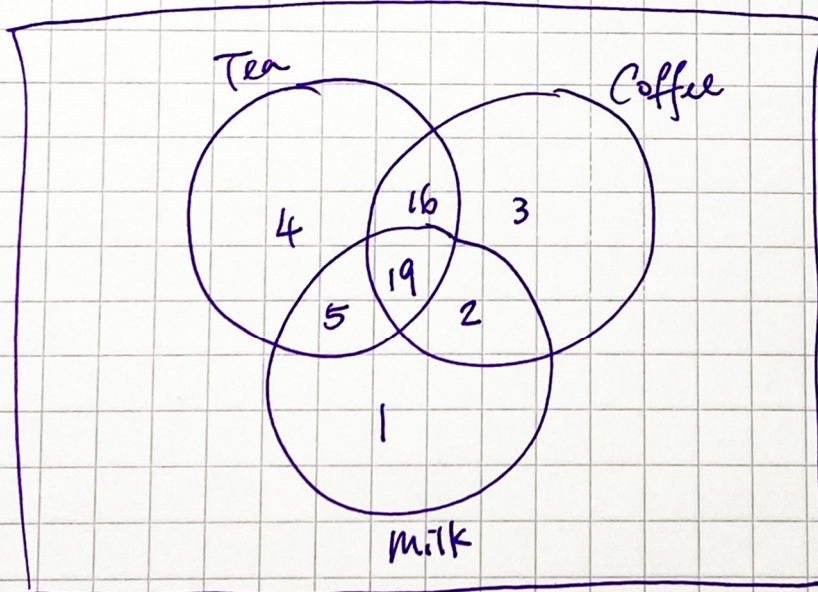
(M1) for 3 fractions with correct denominators
10 9 8

(M1) for 1 set of all correct fraction.

(M1) — + — + adding fractions

$$\frac{42}{720} + \frac{42}{720} + \frac{42}{720} = \frac{126}{720} \text{ (A1)}$$

Q13)



(M1) 3 overlapping labelled ovals with 19 in the centre region.

(M1) at least 5 regions correct.

(M1) all regions correct.

(a) $4 + 16 + 19 + 5 = 44$

$$\frac{44}{50} \text{ (A1)}$$

(b)

$\frac{21}{44}$ ← because 16+5
(P1) for 44 as denominator
(A1)

$$Q7) (a) P(X) = \frac{5}{12}$$

$$(b) P(Y) = \frac{6}{12}$$

$$(c) P(X \cap Y) = \frac{1}{12}$$

$$(d) P(X \cup Y) = \frac{10}{12}$$

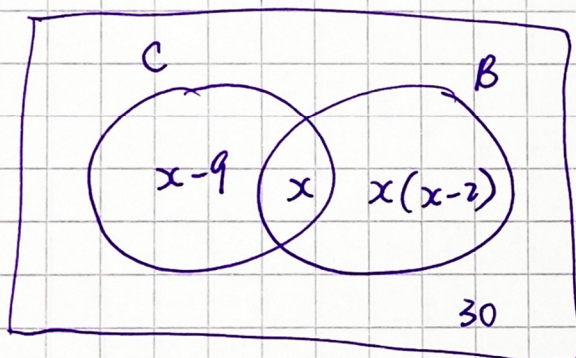
$$(e) P(X') = \frac{7}{12}$$

$$(f) P(Y') = \frac{6}{12}$$

$$(g) P(X \cap Y') = \frac{4}{12}$$

$$(h) P(X' \cup Y) = \frac{8}{12}$$

Q8)



$$x-9 + x + x(x-2) = 720$$

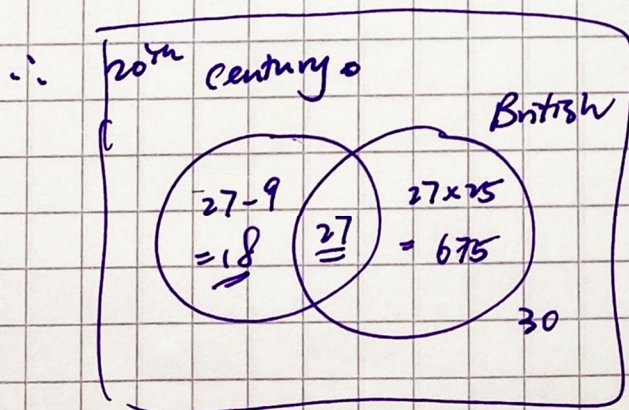
$$x-9 + x + x^2 - 2x = 720$$

$$x^2 - 9 = 720$$

$$x^2 = 729$$

$$x = \pm 27$$

$$x = 27$$



$$\frac{27}{18+27} = \frac{27}{45} = \frac{3}{5}$$

✓ ✓