Answers - Times tables to 12 x 12

Year: Year 4

Answer to Question 1

a. $3 \times 7 = \mathbf{21}$. Count in 3s: 3, 6, 9, 12, 15, 18, 21.
b. $4 \times 8 = \mathbf{32}$. Double 8 is 16 and double 16 is 32.
c. $6 \times 6 = \mathbf{36}$. This is a square number: $5 \times 6 = 30$ and one more 6 is 36.
d. $9 \times 5 = \mathbf{45}$. Half of $9 \times 10 = 90$ is 45.
e. $7 \times 9 = \mathbf{63}$. $7 \times 10 = 70$ and $70 - 7 = 63$.
f. $12 \times 4 = \mathbf{48}$. $10 \times 4 = 40$ and $2 \times 4 = 8$, so $40 + 8 = 48$.

Answer to Question 2

a. $48 \div 6 = \mathbf{8}$, because $6 \times 8 = 48$.
b. $81 \div 9 = \mathbf{9}$, because $9 \times 9 = 81$.
c. $132 \div 11 = \mathbf{12}$, because $11 \times 12 = 132$.
d. $108 \div 12 = \mathbf{9}$, because $12 \times 9 = 108$.
e. $72 \div 8 = \mathbf{9}$, because $8 \times 9 = 72$.
f. $56 \div 7 = \mathbf{8}$, because $7 \times 8 = 56$.

Answer to Question 3

a. $7 \times 9 = 63$; $9 \times 7 = 63$; $63 \div 7 = \mathbf{9}$; $63 \div 9 = \mathbf{7}$.
b. $8 \times 11 = 88$; $11 \times 8 = 88$; $88 \div 8 = \mathbf{11}$; $88 \div 11 = \mathbf{8}$.
c. $6 \times 12 = 72$; $12 \times 6 = 72$; $72 \div 6 = \mathbf{12}$; $72 \div 12 = \mathbf{6}$.

Answer to Question 4

a. $2 \times 5 = 10$, then $10 \times 7 = \mathbf{70}$.
b. $4 \times 5 = 20$, then $20 \times 9 = \mathbf{180}$.
c. $2 \times 5 = 10$, then $10 \times 8 = \mathbf{80}$.
d. $3 \times 4 = 12$, then $12 \times 6 = 72$. Or $3 \times 6 = 18$, then $18 \times 4 = \mathbf{72}$. Both orders give 72.

Answer to Question 5

a. $56 \div 7 = 8$, so $\mathbf{8} \times 7 = 56$.
b. $108 \div 9 = 12$, so $9 \times \mathbf{12} = 108$.
c. $8 \times 6 = 48$, so $\mathbf{48} \div 6 = 8$.

d. 96 ÷ 12 = 8, so 96 ÷ **8** = 12.
e. 11 × 11 = **121** (11 × 10 = 110, plus 11 more).

Answer to Question 6

a. 7, 14, 21, 28, 35, **42**.
b. 1 × 18, 2 × 9 and 3 × 6, so the factors are **1, 2, 3, 6, 9 and 18**.
c. 16 = 4 × 4, 49 = 7 × 7 and 64 = 8 × 8. So **16, 49 and 64** are square. 24 and 72 are not.
d. Count on in 9s: 36 + 9 = 45 and 45 + 9 = 54. The next two numbers are **45 and 54**.

Answer to Question 7

a. 7 × 12 = 70 + 14 = **84 eggs**.
b. 7 + 3 = 10 boxes, and 10 × 12 = **120 eggs**.
c. 84 ÷ 3 = **28 omelettes** (3 × 28 = 84).
d. 12 ÷ 6 = **2 trays**.

Answer to Question 8

a. 9 × 8 = 72 (10 × 8 = 80, take away 8). **72 seats**.
b. 11 × 12 = 132 (10 × 12 = 120, plus 12). **132 seats**.
c. 132 − 72 = **60 more seats**.
d. 72 ÷ 8 = **9 rows**, which is the whole of Screen 1.

Answer to Question 9

a. 12 × 8 = 12 × 10 − 12 × 2 = 120 − 24 = **96 stickers**.
b. 96 ÷ 6 = **16 packs** (6 × 16 = 96).
c. 7 × 6 = **42 stickers**. 96 − 42 = **54 more stickers**.
d. 7 × £1 = **£7**.

Answer to Question 10

a. 9 × 12 = **108 children**.
b. 108 × £5: 100 × 5 = 500 and 8 × 5 = 40, so **£540**.
c. 96 ÷ 8 = **12 tables**.
d. 3 × 12 = **36 children**.

Answer to Question 11

a. 11 × 7 = **77 lettuces**.
b. 6 × 12 = **72 carrots**.
c. 2 × 77 = **154 beans**.
d. 77 − 72 = **5**, so lettuces have 5 more.

Answer to Question 12

a. 8 × 6 = **48 cupcakes**; 8 × £4 = **£32**.
b. 5 × 12 = **60 cookies**; 5 × £3 = **£15**.
c. £32 + £15 = **£47**.
d. 144 ÷ 12 = **12 bags** (12 × 12 = 144).

Answer to Question 13

a. 12 × 4 = **48 seats**.
b. 8 × 48 = 8 × 50 − 8 × 2 = 400 − 16 = **384 seats**.
c. 384 is more than 300, so **nobody** is left standing (84 seats stay empty).
d. 11 × 48 = 480 + 48 = **528 seats**.

Answer to Question 14

a. 12 × 9 = **108 bedrooms**.
b. 108 × 2 = **216 beds**.
c. Adults: 6 × £11 = £66. Children: 7 × £8 = £56. Total: £66 + £56 = **£122**.
d. 108 × 2 = **216 guests**.

Answer to Question 15

a. Apples: 9 × £6 = **£54**. Pears: 8 × £7 = **£56**.
b. Plums: 7 × £8 = £56. Cherries: 6 × £9 = £54. Total: 54 + 56 + 56 + 54 = **£220**.
c. Plums £56 and cherries £54. They are **not** the same: he is wrong, they differ by £2.
d. 9 × 12 = **108 apples**. 5 more boxes: 5 × 12 = **60 apples**.
e. £220 is less than £250, so he did **not** reach it; he was £30 short.

Answer to Question 16

a. 11 × 8 = **88 tiles**.

b. 4 × 6 = **24 decorative tiles**.
c. 88 ÷ 12 = 7 remainder 4 (12 × 7 = 84). She needs 7 boxes for 84 tiles and one more box for the last 4 tiles, so **8 boxes**.
d. 8 × 12 = 96 and 96 − 88 = **8 tiles** left over.
e. 8 × £9 = **£72**.

Answer to Question 17

a. 12 × 9 = **108 chairs**.
b. 3 × 11 = **33 chairs**.
c. 108 + 33 = **141 chairs**.
d. 150 − 141 = **9 extra chairs**.
e. 9 ÷ 8 = 1 remainder 1, so he needs **2 trips** (8 chairs, then 1 chair).

Answer to Question 18

a. 4 × 12 = **48 children**.
b. Red: 9 + 7 + 5 + 9 + 7 + 9 = 46. Blue: 7 + 9 + 9 + 5 + 7 + 7 = 44. Red = 3 × 9 + 2 × 7 + 5 = 27 + 14 + 5 = 46. **Red scores more**.
c. Red has three 9s (sprint, long jump, tug of war), two 7s (relay, egg and spoon) and one 5 (hurdles). 27 + 14 + 5 = 46, which matches the table.
d. The winning team (Red) has **12 children**, so 12 medals.
e. 12 × £2 = **£24**.

Answer to Question 19

a. 7 × 8 = **56 slices**.
b. 56 ÷ 14 = **4 slices** each, and nothing left over (14 × 4 = 56).
c. 7 × £9 = **£63**.
d. £70 − £63 = **£7** change.
e. 6 more children make 20 people. 20 × 4 = 80 slices. 80 − 56 = 24 more slices needed, and 24 ÷ 8 = 3 pizzas. She needs **3** more, not 4, so she is **wrong**.

Answer to Question 20

a. Multiples of 9 between 100 and 150 are 108, 117, 126, 135 and 144. Of these, only 144 is in the 8 times table (8 × 18) and also in the 12 times table (12 × 12). The number is **144**.
b. The square numbers less than 100 are 1, 4, 9, 16, 25, 36, 49, 64, 81. Those that are multiples of 3 are **9, 36 and 81**.
c. Factor pairs of 36 in the table: 3 × 12, 4 × 9 and 6 × 6 (the last pair is not two different numbers). So the pairs are **3 and 12** and **4 and 9**. Sums: 3 + 12 = 15

and 4 + 9 = 13. The pair with sum 13 is **4 and 9**.