

Name: _____

Date: _____

Section A — Fluency

Complete each calculation. Use the diagrams to help where provided.

1. How many dots are in this array? Write the multiplication sentence it shows.



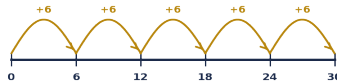
A. $4 \times 7 = 28$

B. $7 \times 3 = 21$

C. $4 \times 6 = 24$

D. $3 \times 7 = 21$

2. This number line shows skip counting by 6. Write the multiplication fact it shows: $___ \times ___ = ___$



3. Complete these calculations:

$8 \times 4 = ___$

$7 \times 6 = ___$

$9 \times 5 = ___$

$12 \times 3 = ___$

$15 \times 4 = ___$

$23 \times 3 = ___$

$56 \div 7 = ___$

$72 \div 8 = ___$

$45 \div 9 = ___$

4. What is the missing number? $___ \times 8 = 96$

A. 8

B. 10

C. 12

D. 14

5. $63 \div 5 = ___$ remainder $___$

6. If $7 \times 9 = 63$, write **two division facts** using the same numbers.

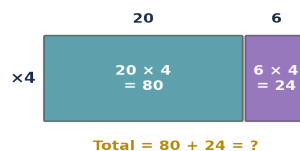
7. Calculate 34×5 . Show your working.

8. Calculate $84 \div 6$. Show your working.

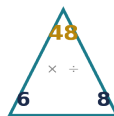
Section B — Understanding

Show your working. Use diagrams where they help.

9. This area model shows 26×4 split into parts. Use it to find the total. Show your working.



10. Use this fact family triangle to write **four number sentences** (two multiplication and two division).



11. Sam says 6×15 is hard, but 15×6 is easy because you can do 15, 30, 45, 60, 75, 90. Why does swapping the numbers give the same answer? Use an array or area model to explain.

12. The diagram shows objects shared into equal groups. Which **two** number sentences match this picture?



A. $4 \times 6 = 24$ and $24 \div 4 = 6$

B. $6 \times 6 = 36$ and $36 \div 6 = 6$

C. $3 \times 8 = 24$ and $24 \div 3 = 8$

D. $4 \times 5 = 20$ and $20 \div 4 = 5$

13. Explain why 7×12 can be worked out as $(7 \times 10) + (7 \times 2)$. Use this strategy to calculate 8×14 . Show each step.

14. When you divide **29 by 4**, the answer is 7 remainder 1. Explain what the remainder means. If 29 students need to travel in cars that hold 4 people, how many cars are needed? Why?

■ ■ Section C — Application

Read each problem carefully. Show all working.

15. A baker puts **8 cupcakes** in each box. She bakes **150 cupcakes**. How many full boxes can she fill? How many cupcakes are left over?

16. A school hall has **18 rows** of chairs with **14 chairs** in each row. How many chairs are there altogether? Use the area model method (split 14 into $10 + 4$).

17. Jack earns **\$7 per hour** helping at his uncle's shop. He works **3 hours on Saturday** and **4 hours on Sunday**. How much does he earn for the whole weekend? Show two different ways to work this out.

18. A teacher has **135 stickers** to share equally among **9 students**. How many stickers does each student get? Write a multiplication fact to check your answer.

19. Mia buys **6 packets of pencils**. Each packet contains **12 pencils** and costs **\$4**. How many pencils does she buy in total? How much does she spend? If she gives 8 pencils to each of her 5 friends, how many does she have left?

20. A farmer collects **24 eggs per day** for **7 days**. He packs them into trays of **12**. How many full trays does he fill?

A. 12 trays	B. 14 trays
C. 16 trays	D. 168 trays

■ ■ Section D — Reasoning & Challenge

Explain your thinking clearly. These questions require deeper reasoning.

21. Amy says: "If I double a number and then double it again, it's the same as multiplying by 4." Is she correct? Test her idea with **three different numbers**. Then explain **why** it works.

22. I multiply a **two-digit number** by **5** and get **135**. What is my number? Explain how you worked it out. Now find: what two-digit number multiplied by **7** gives **161**?

23. Place the digits **3, 4, 5, and 6** into the boxes to make the **largest possible answer**: $\blacksquare\blacksquare \times \blacksquare = \underline{\hspace{1cm}}$. Now rearrange them to make the **smallest possible answer**: $\blacksquare\blacksquare \times \blacksquare = \underline{\hspace{1cm}}$. Explain your strategy.

24. Write a **word problem** that could be solved using the number sentence $156 \div 12 = 13$. Make sure your problem is realistic and uses a real-life situation.

25. A number rounded to the nearest ten is **80**. When this number is divided by **6**, there is **no remainder**. What could the number be? Find **all possible answers** and explain your reasoning.

■ CHALLENGE EXTENSION — Above Year Level

These questions push beyond Year 4. Give them a go if you finished early or want an extra challenge!

E1. Calculate 245×8 using the area model method. Split 245 into $200 + 40 + 5$ and multiply each part. Show all steps.

E2. A hall has chairs arranged in a rectangular grid. There are **fewer than 100 chairs**, but more than 60. The number of chairs can be divided equally into rows of **7**, rows of **9**, or rows of **3** with no chairs left over. How many chairs are there? Explain how you found your answer.

E3. Use each of the digits **1, 2, 3, 4, 5, 6** exactly once to complete this equation: $\blacksquare\blacksquare\blacksquare \times \blacksquare = \blacksquare\blacksquare\blacksquare \times \blacksquare$. Find at least one solution. Is there more than one?
