

Interpreting Remainders

Name: _____ Date: _____ Score: _____ / 24

Q Quick Review

When you divide and the numbers do not split evenly, you get a **remainder** — the amount left over. For example, $17 \div 5 = 3 \text{ R } 2$, because 5 goes into 17 three times with 2 left over. The tricky part is knowing what the remainder **means** in a real problem. Sometimes you **drop** the remainder, sometimes you **round up** to the next whole number, and sometimes the remainder **is** the answer. Always reread the question and ask what the leftover amount stands for.

◊ **Example:** 23 students are riding in vans. Each van holds 4 students. How many vans are needed so everyone has a ride?
 ⇒ First do the division: $23 \div 4 = 5 \text{ R } 3$. Five full vans carry 20 students, but 3 students still need a ride. We cannot leave them behind, so we round up and add one more van. That gives $5 + 1 = 6$ vans. Here the remainder tells us to round up.

Answer: 6 vans

PRACTICE

Divide and write the remainder. Think about what it means.

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|-----------------|-------|------------------|-------|
| 1. $17 \div 5$ | _____ | 11. $19 \div 2$ | _____ |
| 2. $23 \div 4$ | _____ | 12. $47 \div 5$ | _____ |
| 3. $38 \div 6$ | _____ | 13. $70 \div 8$ | _____ |
| 4. $50 \div 7$ | _____ | 14. $26 \div 3$ | _____ |
| 5. $29 \div 3$ | _____ | 15. $58 \div 7$ | _____ |
| 6. $44 \div 8$ | _____ | 16. $91 \div 9$ | _____ |
| 7. $61 \div 9$ | _____ | 17. $100 \div 6$ | _____ |
| 8. $75 \div 10$ | _____ | 18. $85 \div 4$ | _____ |
| 9. $33 \div 4$ | _____ | 19. $64 \div 5$ | _____ |
| 10. $52 \div 6$ | _____ | 20. $77 \div 6$ | _____ |

◆ Word Problems

21. There are 30 students going on a field trip. Each van can carry 7 students. How many vans are needed so that everyone gets a ride? _____
22. Mrs. Lee baked 53 cookies. She puts exactly 8 cookies in each bag for the bake sale. How many full bags can she make? _____
23. Diego has 100 vacation photos. He can fit 6 photos on each scrapbook page. How many pages will he need to hold all of the photos? _____
24. A teacher shares 45 markers equally among 4 art stations. Each station gets the same number, and any extras go back in the supply box. How many markers go in the supply box? _____



Answer Keys

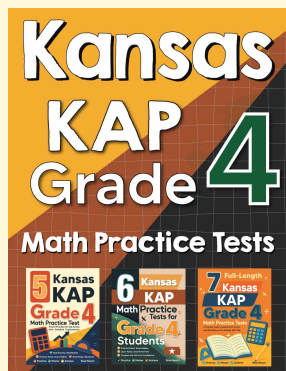
- | | |
|---|---|
| 1. 3 R 2 | 13. 8 R 6 |
| 2. 5 R 3 | 14. 8 R 2 |
| 3. 6 R 2 | 15. 8 R 2 |
| 4. 7 R 1 | 16. 10 R 1 |
| 5. 9 R 2 | 17. 16 R 4 |
| 6. 5 R 4 | 18. 21 R 1 |
| 7. 6 R 7 | 19. 12 R 4 |
| 8. 7 R 5 | 20. 12 R 5 |
| 9. 8 R 1 | 21. 5 vans |
| 10. 8 R 4 | 22. 6 full bags |
| 11. 9 R 1 | 23. 17 pages |
| 12. 9 R 2 | 24. 1 marker |

Step-by-Step Explanations

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| <p>1. $5 \times 3 = 15$, and $17 - 15 = 2$ left over.</p> <p>2. $4 \times 5 = 20$, and $23 - 20 = 3$ left over.</p> <p>3. $6 \times 6 = 36$, and $38 - 36 = 2$ left over.</p> <p>4. $7 \times 7 = 49$, and $50 - 49 = 1$ left over.</p> <p>5. $3 \times 9 = 27$, and $29 - 27 = 2$ left over.</p> <p>6. $8 \times 5 = 40$, and $44 - 40 = 4$ left over.</p> <p>7. $9 \times 6 = 54$, and $61 - 54 = 7$ left over.</p> <p>8. $10 \times 7 = 70$, and $75 - 70 = 5$ left over.</p> <p>9. $4 \times 8 = 32$, and $33 - 32 = 1$ left over.</p> <p>10. $6 \times 8 = 48$, and $52 - 48 = 4$ left over.</p> <p>11. $2 \times 9 = 18$, and $19 - 18 = 1$ left over.</p> <p>12. $5 \times 9 = 45$, and $47 - 45 = 2$ left over.</p> <p>13. $8 \times 8 = 64$, and $70 - 64 = 6$ left over.</p> <p>14. $3 \times 8 = 24$, and $26 - 24 = 2$ left over.</p> | <p>15. $7 \times 8 = 56$, and $58 - 56 = 2$ left over.</p> <p>16. $9 \times 10 = 90$, and $91 - 90 = 1$ left over.</p> <p>17. $6 \times 16 = 96$, and $100 - 96 = 4$ left over.</p> <p>18. $4 \times 21 = 84$, and $85 - 84 = 1$ left over.</p> <p>19. $5 \times 12 = 60$, and $64 - 60 = 4$ left over.</p> <p>20. $6 \times 12 = 72$, and $77 - 72 = 5$ left over.</p> <p>21. $30 \div 7 = 4 \text{ R } 2$. Four vans carry 28, but 2 students are still waiting, so we round up to 5 vans.</p> <p>22. $53 \div 8 = 6 \text{ R } 5$. She can fill 6 bags completely. The 5 leftover cookies are not enough for a full bag, so we drop the remainder.</p> <p>23. $100 \div 6 = 16 \text{ R } 4$. Sixteen pages hold 96 photos, and 4 are left, so he needs one more page: $16 + 1 = 17$ pages.</p> <p>24. $45 \div 4 = 11 \text{ R } 1$. Each station gets 11 markers, and the remainder of 1 marker goes back in the supply box. Here the remainder is the answer.</p> |
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