Long Division with Remainders — Step by Step

Unit: Operations - Student Practice Worksheet

Overview: 456 sweets, 15 children, share them equally. Kabir's calculator said 30.4. He announced that each child gets thirty sweets and four tenths of a sweet, and the class started arguing about who would cut them.

Practice Questions (30 Total)

Section A - Easy

Q1. 4 into 84. Quotient?

$$4 \overline{)\,84}$$

- [ ] **A.** 21
- [ ] **B.** 22
- [ ] **C.** 20
- [ ] **D.** 24

Q2. Compute 250 ÷ 5

- [ ] **A.** 40
- [ ] **B.** 50
- [ ] **C.** 45
- [ ] **D.** 55

Q3. Compute 96 ÷ 8

- [ ] **A.** 11
- [ ] **B.** 12
- [ ] **C.** 13
- [ ] **D.** 14

Q4. 5 into 125. Quotient?

5) 125

- [ ] **A.** 20
- [ ] **B.** 24
- [ ] **C.** 25
- [ ] **D.** 35

Q5. Compute 77 ÷ 6

- [ ] **A.** 12 remainder 5
- [ ] **B.** 12 remainder 6
- [ ] **C.** 13 remainder 1
- [ ] **D.** 11 remainder 11

Q6. Compute 63 ÷ 7

- [ ] **A.** 8
- [ ] **B.** 7
- [ ] **C.** 9
- [ ] **D.** 6

Q7. 4 into 200. Quotient, including any zero?

4) 200

- [ ] **A.** 40
- [ ] **B.** 50
- [ ] **C.** 45
- [ ] **D.** 55

Q8. Compute 81 ÷ 9

- [ ] **A.** 8
- [ ] **B.** 7
- [ ] **C.** 6
- [ ] **D.** 9

Q9. Compute 144 ÷ 12

- A. 11
- B. 14
- C. 13
- D. 12

Q10. 100 ÷ 3 as quotient and remainder, checking the remainder is smaller than 3.

- A. 33 remainder 1
- B. 33 remainder 2
- C. 34 remainder 1
- D. 30 remainder 10

Section B - Medium

Q11. 12 into 456. Quotient?

12) 456

- A. 36
- B. 38
- C. 40
- D. 37

Q12. Compute 1234 ÷ 11

- A. 112 remainder 3
- B. 112 remainder 2
- C. 113 remainder 1
- D. 111 remainder 13

Q13. Compute 729 ÷ 27

- A. 26
- B. 29
- C. 27
- D. 28

Q14. 25 into 1000. Quotient?

25) 1000

- [ ] **A.** 35
- [ ] **B.** 45
- [ ] **C.** 50
- [ ] **D.** 40

Q15. Compute 2345 ÷ 15

- [ ] **A.** 155 remainder 20
- [ ] **B.** 157 remainder 0
- [ ] **C.** 156 remainder 5
- [ ] **D.** 156 remainder 15

Q16. Compute 875 ÷ 35

- [ ] **A.** 25
- [ ] **B.** 24
- [ ] **C.** 26
- [ ] **D.** 27

Q17. 23 into 5678. Quotient and remainder?

23) 5678

- [ ] **A.** 245 remainder 20
- [ ] **B.** 246 remainder 20
- [ ] **C.** 246 remainder 23
- [ ] **D.** 247 remainder 3

Q18. Compute 4096 ÷ 16

- [ ] **A.** 246
- [ ] **B.** 266
- [ ] **C.** 255

- [ ] **D.** 256

Q19. Compute 3600 ÷ 45

- [ ] **A.** 70
- [ ] **B.** 90
- [ ] **C.** 80
- [ ] **D.** 85

Q20. 999 ÷ 37, then check by multiplying back.

- [ ] **A.** 27
- [ ] **B.** 26
- [ ] **C.** 29
- [ ] **D.** 28

Section C - Challenge

Q21. 45 into 12345. Quotient and remainder?

45) 12345

- [ ] **A.** 274 remainder 5
- [ ] **B.** 273 remainder 15
- [ ] **C.** 275 remainder 0
- [ ] **D.** 274 remainder 15

Q22. Which check confirms that 5678 ÷ 23 = 246 remainder 20?

- [ ] **A.** 246 + 20 + 23 = 289
- [ ] **B.** 246 × 20 = 4920
- [ ] **C.** 23 × 246 + 20 = 5678
- [ ] **D.** 5678 – 246 = 5432

Q23. What is the smallest number to add to 1000 to make it divisible by 24?

- [ ] **A.** 16
- [ ] **B.** 8
- [ ] **C.** 24

- [ ] **D.** 4

Q24. 456 sweets shared by 15 children. Each gets how many, leftover?

456 sweets, 15 children

- [ ] **A.** 31 each, 1 left
- [ ] **B.** 30.4 each, none left
- [ ] **C.** 30 each, 6 left
- [ ] **D.** 30 each, 16 left

Q25. Why must the remainder always be smaller than the divisor?

- [ ] **A.** Because remainders are always small numbers
- [ ] **B.** Because the divisor could otherwise fit in once more
- [ ] **C.** Because the quotient must be a whole number
- [ ] **D.** It is a convention with no reason

Q26. What is the smallest number to subtract from 1000 to make it exactly divisible by 24?

- [ ] **A.** 16
- [ ] **B.** 8
- [ ] **C.** 24
- [ ] **D.** 41

Q27. 1000 cm rope in 35 cm pieces. Whole pieces and leftover length?

1000 cm, pieces 35 cm

- [ ] **A.** 29 pieces, 15 cm left
- [ ] **B.** 28 pieces, 20 cm left
- [ ] **C.** 28.57 pieces
- [ ] **D.** 28 pieces, 35 cm left

Q28. A number divided by 17 gives quotient 25 and remainder 8. Find the number.

- [ ] **A.** 425
- [ ] **B.** 50
- [ ] **C.** 433
- [ ] **D.** 441

Q29. Compute 2,50,000 ÷ 125

- [ ] **A.** 200
- [ ] **B.** 2500
- [ ] **C.** 20000
- [ ] **D.** 2000

Q30. 9999 ÷ 88, then check divisor × quotient + remainder.

- [ ] **A.** 113 remainder 55
- [ ] **B.** 113 remainder 95
- [ ] **C.** 114 remainder 7
- [ ] **D.** 112 remainder 143

Answer Key

Q1: (A) (a) 21. Check: 4 × 21 = 84 exactly, so there is no remainder.

Q2: (B) (b) 50. The 0 in the quotient's ones column must be written, not skipped.

Q3: (B) (b) 12. Check: 8 × 12 = 96.

Q4: (C) (c) 25. Check: 5 × 25 = 125.

Q5: (A) (a) 12 remainder 5. Options (b) and (d) both have a remainder that is not smaller than the divisor.

Q6: (C) (c) 9. Check: 7 × 9 = 63.

Q7: (B) (b) 50. Check: 4 × 50 = 200.

Q8: (D) (d) 9. Check: 9 × 9 = 81.

Q9: (D) (d) 12. Check: 12 × 12 = 144.

Q10: (A) (a) 33 remainder 1. Option (d) has a remainder larger than the divisor, so 3 could have gone in more times.

Q11: (B) (b) 38. Check: 12 × 38 = 456 exactly.

Q12: (B) (b) 112 remainder 2. Check: 11 × 112 + 2 = 1234. Option (d) has a remainder bigger than the divisor.

Q13: (C) (c) 27. Check: 27 × 27 = 729.

Q14: (D) (d) 40. Check: 25 × 40 = 1000.

Q15: (C) (c) 156 remainder 5. Check: 15 × 156 + 5 = 2345. Option (d)'s remainder equals the divisor, so it is not finished.

Q16: (A) (a) 25. Check: 35 × 25 = 875.

Q17: (B) (b) 246 remainder 20. Check: 23 × 246 = 5658, plus 20 gives 5678.

Q18: (D) (d) 256. Check: 16 × 256 = 4096.

Q19: (C) (c) 80. Check: 45 × 80 = 3600.

Q20: (A) (a) 27. Check: 37 × 27 = 999.

Q21: (D) (d) 274 remainder 15. Check: 45 × 274 = 12,330, plus 15 gives 12,345.

Q22: (C) (c) 23 × 246 + 20 = 5678. Divisor times quotient plus remainder must return the dividend.

Q23: (B) (b) 8. The remainder is 16, so 24 – 16 = 8 more completes the next multiple.

Q24: (C) (c) 30 each, 6 left. Option (b) is Kabir's calculator answer — true as a number, but you cannot hand out 0.4 of a sweet.

Q25: (B) (b) Because the divisor could otherwise fit in once more, meaning the quotient digit was too small and the division is not finished.

Q26: (A) (a) 16. 1000 ÷ 24 leaves remainder 16, and removing the remainder leaves an exact multiple. Option (b) is what you ADD instead.

Q27: (B) (b) 28 pieces, 20 cm left. Option (c) counts a part-piece as a piece, and option (d)'s leftover equals a whole piece, so one more could have been cut.

Q28: (C) (c) 433. Use the check formula forwards: 17 × 25 + 8. Option (a) forgets to add the remainder.

Q29: (D) (d) 2000. Check: 125 × 2000 = 2,50,000. Options (a) and (c) are off by a factor of ten.

Q30: (A) (a) 113 remainder 55. Check: 88 × 113 = 9944, plus 55 gives 9999. Options (b) and (d) have remainders larger than 88.

You've got this! Keep learning and shining! - Ruchi Math Coaching