Long Division

Understanding Long Division (Without Regrouping)

- Long division is a method to divide big numbers step by step.
- In division without regrouping, the numbers divide exactly with no need to carry or borrow.
- The digits in the dividend can be divided directly by the divisor.
- The steps of long division are:
  - Divide
  - Multiply
  - Subtract
  - Bring down (if needed)
- We use the long division symbol ($\overline{)}$) to write the problem.

Examples with Solutions

Example 1

➢ **Divide 84 ÷ 2**

✓ **Step 1:** 8 ÷ 2 = 4 → Write 4 on top

✓ **Step 2:** 4 × 2 = 8 → Subtract 8 from 8 = 0

✓ **Step 3:** Bring down 4

✓ **Step 4:** 4 ÷ 2 = 2 → Write 2 on top

Final Answer: 42

Example 2

➢ **Divide 36 ÷ 3**

✓ **Step 1:** 3 ÷ 3 = 1 → Write 1 on top

✓ **Step 2:** Subtract 3 – 3 = 0

✓ **Step 3:** Bring down 6

✓ **Step 4:** 6 ÷ 3 = 2 → Write 2 on top

Final Answer: 12

Example 3

➢ **Divide 62 ÷ 2**

✓ **Step 1:** 6 ÷ 2 = 3 → Write 3 on top

✓ **Step 2:** Subtract 6 – 6 = 0

✓ **Step 3:** Bring down 2

✓ **Step 4:** 2 ÷ 2 = 1 → Write 1 on top

Final Answer: 31

Example 4

➢ **Divide 48 ÷ 4**

✓ **Step 1:** 4 ÷ 4 = 1 → Write 1 on top

✓ **Step 2:** Subtract 4 – 4 = 0

✓ **Step 3:** Bring down 8

✓ **Step 4:** 8 ÷ 4 = 2 → Write 2 on top

Final Answer: 12

Example 5

➢ **Divide 96 ÷ 3**

✓ **Step 1:** 9 ÷ 3 = 3 → Write 3 on top

✓ **Step 2:** Subtract 9 – 9 = 0

✓ **Step 3:** Bring down 6

✓ **Step 4:** 6 ÷ 3 = 2 → Write 2 on top

Final Answer: 32

Summary Points

- Long division without regrouping means the numbers divide evenly.
- No need to carry or borrow in each step.
- Follow the steps: Divide → Multiply → Subtract → Bring down.
- Practice helps in mastering this method.
- Always check the answer by multiplying the quotient by the divisor.