

DIVIDING BY COLUMN

[Note: To avoid confusion with plus sign, the division sign is changed to slash ('/')]

FACT 1: We may divide large numbers by breaking them into ones, tens, hundreds, etc.

Divide, 486 / 2

$$\begin{aligned}
 486 / 2 &= (400 + 80 + 6) / 2 \\
 &= (400 / 2) + (80 / 2) + (6 / 2) \\
 &= 200 + 40 + 3 \\
 &= 243
 \end{aligned}$$

FACT 2: We may use the above procedure by means of columns.

		2 4 3			Quotient	
Divisor	2	4 8 6	- 4			Dividend
						Divide 4 hundreds by 2
						8
						- 8
						Divide 8 tens by 2
						6
						- 6
						Divide 6 ones by 2
						0
						No final remainder → exact division

The steps are:

- (a) For 100's: 4 divided by 2 is 2; place 2 hundreds in the quotient. Bring down the 8 tens.
- (b) For 10's: 8 divided by 2 is 4; place 4 tens in the quotient. Bring down the 6 ones.
- (c) For 1's: 6 divided by 2 is 3; place 3 ones.
- (d) The quotient is 2 hundreds, 4 tens and 3 ones or, 243.
- (e) There is no remainder meaning the division is exact.

FACT 3: When there is a remainder in a column, it is placed next to the digit from the next column.

Divide, 572 / 2

		2 8 6			Quotient	
Divisor	2	5 7 2	- 4			Dividend
						Divide 4 hundreds by 2
						1 7
						Bring down 7
						- 1 6
						Divide 17 tens by 2
						1 2
						Bring down 2
						- 1 2
						Divide 12 ones by 2
						0
						No final remainder → exact division

The steps are:

- (a) For 100's: 2 goes in 5, 2 times as 4; put down 2 hundreds in quotient. Subtract to get the remainder, 1 hundred.
- (b) For 10's: Bring down 7 making it 17 tens. 2 goes in 17, 8 times as 16; put down 8 tens. Subtract to get the remainder, 1 ten.

1. Compute the following using long form.

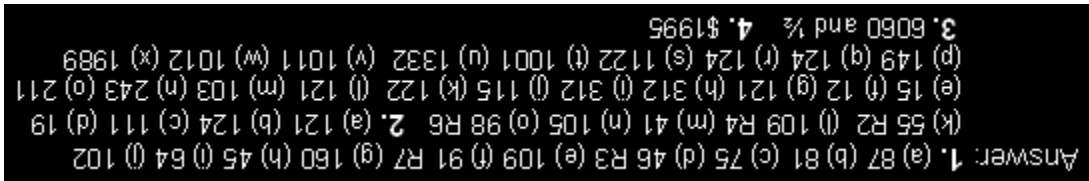
- | | | |
|-------------|-------------|-------------|
| (a) 435 / 5 | (f) 826 / 9 | (k) 222 / 4 |
| (b) 324 / 4 | (g) 800 / 5 | (l) 876 / 8 |
| (c) 450 / 6 | (h) 315 / 7 | (m) 123 / 3 |
| (d) 325 / 7 | (i) 384 / 6 | (n) 735 / 7 |
| (e) 327 / 3 | (j) 612 / 6 | (o) 888 / 9 |

2. Find the quotient using short form.

- | | | | |
|-------------|-------------|-------------|--------------|
| (a) 363 / 3 | (g) 484 / 4 | (m) 309 / 3 | (s) 2244 / 2 |
| (b) 248 / 2 | (h) 936 / 3 | (n) 486 / 2 | (t) 5005 / 5 |
| (c) 444 / 4 | (i) 624 / 2 | (o) 844 / 4 | (u) 3996 / 3 |
| (d) 57 / 3 | (j) 345 / 3 | (p) 894 / 6 | (v) 8088 / 8 |
| (e) 75 / 5 | (k) 732 / 6 | (q) 372 / 3 | (w) 6072 / 6 |
| (f) 84 / 7 | (l) 847 / 7 | (r) 992 / 8 | (x) 9945 / 5 |

3. A profit of \$36,363 is to be divided equally among 6 business partners. How much does each partner receive?

4. If 7 computers cost \$13,965 what is the cost per computer?



End of Lesson