

## column addition

|   | Th | H | T | O |
|---|----|---|---|---|
|   | 2  | 5 | 7 | 8 |
| + | 3  | 3 | 5 | 1 |
|   | 5  | 9 | 2 | 9 |
|   |    | 1 |   |   |

## estimating answers

$$4,934 + 2,345$$

Rounded to the nearest thousand:  $5,000 + 2,000 = 7,000$

The answer should be approximately 7,000

$$4,934 + 2,345 = 7,279$$

## using the inverse operation to check answers

$$4,934 + 2,345 = 7,279$$

'inverse means opposite, so check by subtracting one part from the whole.

|       |       |  |
|-------|-------|--|
| 7,279 |       |  |
| 4,934 | 2,345 |  |

$$7,279 - 4,934 = 2,345$$

## column subtraction

|   | Th             | H  | T | O |
|---|----------------|----|---|---|
|   | <del>4</del> 5 | 12 | 7 | 8 |
| - | 3              | 3  | 5 | 1 |
|   | 1              | 9  | 2 | 7 |
|   |                |    |   |   |

## solve addition and subtraction two-step problems

Mia was given £50 for her birthday. She bought an game for £26 and a shirt for £15. How much does she have left?

|     |     |   |
|-----|-----|---|
| £50 |     |   |
| £26 | £15 | ? |

Find out how much was spent in total, then subtract from the amount of money she was given.

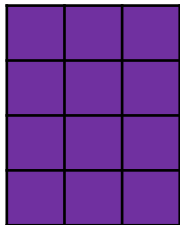
## finding factor pairs

12

$1 \times 12$

$2 \times 6$

$3 \times 4$



## multiplying using factor pairs

$12 \times 9 =$

$10 \times 9 = 90$

$2 \times 9 = 18$

$90 + 18 = 108$

$12 \times 9 = 108$

## using known facts

$4 \times 7 = 28$

$7 \times 4 = 28$

$40 \times 7 = 280$

$400 \times 7 = 2,800$

$4 \times 70 = 280$

$4 \times 700 = 2,800$

$40 \times 70 = 2,800$

$28 \div 7 = 4$

$28 \div 4 = 7$

$280 \div 7 = 40$

$280 \div 4 = 70$

$2,800 \div 7 = 400$

$2,800 \div 4 = 700$

## short multiplication

|       |   |   |   |
|-------|---|---|---|
|       |   | 5 | 7 |
| x     |   |   | 6 |
| <hr/> |   |   |   |
| 3     | 4 |   | 2 |
| <hr/> |   |   |   |
|       | 4 |   |   |

|       |   |   |   |   |
|-------|---|---|---|---|
|       |   | 3 | 5 | 7 |
| x     |   |   |   | 6 |
| <hr/> |   |   |   |   |
| 2     | 1 | 4 |   | 2 |
| <hr/> |   |   |   |   |
|       | 3 | 4 |   |   |

## short division

$148 \div 2 = 74$

dividend    divisor    quotient

|   |   |   |   |  |
|---|---|---|---|--|
|   | 0 | 7 | 4 |  |
| 2 | 1 | 4 | 8 |  |
|   | 1 |   |   |  |

Any number multiplied by 0 is 0  
 $4 \times 0 = 0$      $7 \times 0 = 0$      $12 \times 0 = 0$   
 Any number multiplied or divided by 1 stays the same

$45 \times 1 = 45$      $45 \div 1 = 45$

| x  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9   | 10  | 11  | 12  |
|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|
| 1  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9   | 10  | 11  | 12  |
| 2  | 2  | 4  | 6  | 8  | 10 | 12 | 14 | 16 | 18  | 20  | 22  | 24  |
| 3  | 3  | 6  | 9  | 12 | 15 | 18 | 21 | 24 | 27  | 30  | 33  | 36  |
| 4  | 4  | 8  | 12 | 16 | 20 | 24 | 28 | 32 | 36  | 40  | 44  | 48  |
| 5  | 5  | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45  | 50  | 55  | 60  |
| 6  | 6  | 12 | 18 | 24 | 30 | 36 | 42 | 48 | 54  | 60  | 66  | 72  |
| 7  | 7  | 14 | 21 | 28 | 35 | 42 | 49 | 56 | 63  | 70  | 77  | 84  |
| 8  | 8  | 16 | 24 | 32 | 40 | 48 | 56 | 64 | 72  | 80  | 88  | 96  |
| 9  | 9  | 18 | 27 | 36 | 45 | 54 | 63 | 72 | 81  | 90  | 99  | 108 |
| 10 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90  | 100 | 110 | 120 |
| 11 | 11 | 22 | 33 | 44 | 55 | 66 | 77 | 88 | 99  | 110 | 121 | 132 |
| 12 | 12 | 24 | 36 | 48 | 60 | 72 | 84 | 96 | 108 | 120 | 132 | 144 |