

# Number Relationships

Name: \_\_\_\_\_

Date: \_\_\_\_\_

## 1. The relationship between adding and subtracting

Circle or highlight the statements which are correct (there is more than one)

$6 + 2 = 8$      $2 = 8 - 6$      $8 - 2 = 6$

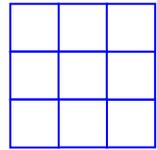
$6 - 2 = 8$      $6 + 8 = 2$      $6 = 2 + 8$

## 2. Demonstrate a square number

A square number is a number times itself. E.g.  $3 \times 3 = 9$  so 9 is a square number.

You could show this by drawing three rows of three squares, total 9 squares

Demonstrate another square number, using squares.



## 3. Recognising multiples

What is the next number in this sequence?

21    28    35    \_\_\_\_\_

## 4. The relationship between multiplying and dividing

Circle or highlight the statements which are correct (there is more than one).

$4 \times 12 = 3$      $3 \times 4 = 12$      $12 \div 3 = 4$

$4 = 3 \div 12$      $3 = 12 \div 4$      $4 \times 3 = 12$

## 5. The relationship between fractions, decimals and parts of £

These expressions are all parts of a whole (less than one).

Finish sorting them into their correct columns.

*quarter*

0.50

$\frac{1}{4}$

50p

*half*

$\frac{3}{4}$

75p

0.25

$\frac{1}{2}$

25p

0.75

*three-quarters*

| Fraction name | Fraction in figures | As a decimal | As a part of £ |
|---------------|---------------------|--------------|----------------|
| quarter       |                     |              |                |
|               |                     | 0.5          |                |
|               |                     |              | 75p            |

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## 6. Recognising multiples

(a) How can you tell if a number can be divided by 5?

(b) Fill in the missing number.

10,100   10,110   \_\_\_\_\_   10,130   10,140

## 7. Recognising multiples (read the **dividing tips** first!)

(a) Circle or highlight the odd one out.

51   8,124,123   892   39

(b) Circle or highlight the odd one out.

91   185,436   99   45,018

## 8. Recognising square numbers

Fill in the missing numbers.

1   4   \_\_\_\_\_   16   \_\_\_\_\_   36   49   64   \_\_\_\_\_   100

## 9. Recognising factors

(a) Complete this list of factors of 12:     1   \_\_\_\_\_   \_\_\_\_\_   4   \_\_\_\_\_   12

(b) Now list all the factors of 20:     \_\_\_\_\_

## 10. Recognising the relationship between fractions and percentages

Shade and label these circles to show the fraction and percentage of the whole.

Fraction     1/4

Percentage =

Fraction     3/4

Percentage =

Fraction     1/2

Percentage =

1 whole

Percentage =

### Some handy tips on dividing

If you add the digits of a number and the sum can be **divided by 3** so can the original number.

**411**   4+1+1=6

so 3 will go into 411

If you add the digits of a number and the sum can be **divided by 9** so can the original number

**8,145**   8+1+4+5=18   1+8=9

so 9 will go into 8,145

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## ANSWERS

1.

$6 + 2 = 8$        $2 = 8 - 6$        $8 - 2 = 6$

$6 - 2 = 8$        $6 + 8 = 2$        $6 = 2 + 8$

2. Suitable drawing of a square number. E.g. 4 x 4 square for 16, or a 5 x 5 square for 25, etc.

3. 42 (multiples of 7)

4.

$4 \times 12 = 3$        $3 \times 4 = 12$        $12 \div 3 = 4$

$4 = 3 \div 12$        $3 = 12 \div 4$        $4 \times 3 = 12$

5. Complete the table

| <i>name</i>    | <i>fraction</i> | <i>decimal</i> | <i>Part of £</i> | <i>Percentage<br/>(for question 10)</i> |
|----------------|-----------------|----------------|------------------|---|
| quarter        | 1/4             | 0.25           | 25p              | 25%                                     |
| half           | 1/2             | 0.50           | 50p              | 50%                                     |
| three-quarters | 3/4             | 0.75           | 75p              | 75%                                     |

6a. Ends in 5 or 0

6b. 10,120 (add 10)

7a. 892 (3 goes into all the others)

7b. 91 (9 goes into all the others)

8. Fill in the missing numbers (square numbers)

1      4      9      16      25      36      49      64      81      100

9a. 1      2      3      4      6      12

9b. 1      2      4      5      10      20

10. Correctly shaded circles and correct percentages to match the given fractions

(see last column of table in answer to question 5 for percentages)