

# Christmas Mental Calculations

Solve the calculations to reveal the hidden picture.

Each answer has a special colour.

**Red**

**Yellow**

**Brown**

**Green**

**Blue**

1 – 5

6 – 10

11 – 20

21 - 40

41 - 144

$7 \times 7$	$8 \times 8$	$6 \times 7$	$8 \times 11$	$36 \div 6$	$7 \times 6$	$8 \times 7$	$12 \times 5$	$7 \times 10$
$9 \times 7$	$9 \times 11$	$9 \times 12$	$9 \times 12$	$2 \times 12$	$9 \times 5$	$10 \times 7$	$11 \times 4$	$9 \times 6$
$12 \times 7$	$10 \times 9$	$11 \times 10$	$36 \div 9$	$7 \times 5$	$36 \div 12$	$8 \times 11$	$12 \times 7$	$10 \times 10$
$9 \times 10$	$11 \times 4$	$3 \times 3$	$11 \times 3$	$48 \div 8$	$9 \times 4$	$81 \div 9$	$7 \times 8$	$10 \times 7$
$12 \times 7$	$12 \times 11$	$4 \times 7$	$6 \times 6$	$9 \times 3$	$4 \times 8$	$12 \times 2$	$11 \times 6$	$9 \times 9$
$9 \times 10$	$6 \div 2$	$5 \times 7$	$2 \times 2$	$12 \times 3$	$16 \div 4$	$6 \times 5$	$24 \div 8$	$10 \times 10$
$11 \times 5$	$8 \times 5$	$35 \div 5$	$5 \times 5$	$8 \times 1$	$11 \times 3$	$70 \div 10$	$4 \times 7$	$9 \times 9$
$2 \times 11$	$5 \times 6$	$10 \times 4$	$7 \times 4$	$3 \times 8$	$6 \times 6$	$9 \times 3$	$3 \times 11$	$4 \times 8$
$3 \times 2$	$12 \times 3$	$30 \div 6$	$6 \times 6$	$99 \div 11$	$8 \times 5$	$5 \times 1$	$5 \times 7$	$2 \times 4$
$7 \times 6$	$8 \times 12$	$11 \times 10$	$88 \div 8$	$4 \times 3$	$72 \div 6$	$5 \times 12$	$11 \times 8$	$6 \times 12$

**Challenge Question:** What are all possible multiplication or division calculations from the multiplication tables up to  $12 \times 12$  that could be used give the answer 4?

# Christmas Mental Calculations

**Red**

**Yellow**

**Brown**

**Green**

**Blue**

1 – 5

6 – 10

11 – 20

21 - 40

41 - 144

$7 \times 7$	$8 \times 8$	$6 \times 7$	$8 \times 11$	$36 \div 6$	$7 \times 6$	$8 \times 7$	$12 \times 5$	$7 \times 10$
$9 \times 7$	$9 \times 11$	$9 \times 12$	$9 \times 12$	$2 \times 12$	$9 \times 5$	$10 \times 7$	$11 \times 4$	$9 \times 6$
$12 \times 7$	$10 \times 9$	$11 \times 10$	$36 \div 9$	$7 \times 5$	$36 \div 12$	$8 \times 11$	$12 \times 7$	$10 \times 10$
$9 \times 10$	$11 \times 4$	$3 \times 3$	$11 \times 3$	$48 \div 8$	$9 \times 4$	$81 \div 9$	$7 \times 8$	$10 \times 7$
$12 \times 7$	$12 \times 11$	$4 \times 7$	$6 \times 6$	$9 \times 3$	$4 \times 8$	$12 \times 2$	$11 \times 6$	$9 \times 9$
$9 \times 10$	$6 \div 2$	$5 \times 7$	$2 \times 2$	$12 \times 3$	$16 \div 4$	$6 \times 5$	$24 \div 8$	$10 \times 10$
$11 \times 5$	$8 \times 5$	$35 \div 5$	$5 \times 5$	$8 \times 1$	$11 \times 3$	$70 \div 10$	$4 \times 7$	$9 \times 9$
$2 \times 11$	$5 \times 6$	$10 \times 4$	$7 \times 4$	$3 \times 8$	$6 \times 6$	$9 \times 3$	$3 \times 11$	$4 \times 8$
$3 \times 2$	$12 \times 3$	$30 \div 6$	$6 \times 6$	$99 \div 11$	$8 \times 5$	$5 \times 1$	$5 \times 7$	$2 \times 4$
$7 \times 6$	$8 \times 12$	$11 \times 10$	$88 \div 8$	$4 \times 3$	$72 \div 6$	$5 \times 12$	$11 \times 8$	$6 \times 12$

**Challenge Question:** What are all possible multiplication or division calculations from the multiplication tables up to  $12 \times 12$  that could be used give the answer 4?

**Answers:**  $1 \times 4$ ,  $2 \times 2$ ,  $4 \times 1$ ,  $4 \div 1$ ,  $8 \div 2$ ,  $12 \div 3$ ,  $16 \div 4$ ,  $20 \div 5$ ,  $24 \div 6$ ,  $28 \div 7$ ,  $32 \div 8$ ,  $36 \div 9$ ,  $40 \div 10$ ,  $44 \div 11$ ,  $48 \div 12$

# Christmas Mental Calculations

Solve the calculations to reveal the hidden picture.

Each answer has a special colour.

**Brown**

**Blue**

**Red**

**Black**

**White**

**Green**

0.12

0.24

0.36

1.2

2.4

3.6

$0.2 \times 1.2$	$0.12 \times 1$	$3 \times 0.08$	$2 \times 0.06$	$6 \times 0.04$	$4 \times 0.03$	$12 \times 0.02$	$0.2 \times 0.6$	$2.4 \times 0.1$
$0.3 \times 0.8$	$4 \times 0.06$	$3 \times 0.04$	$2 \times 0.12$	$2.4 \times 0.1$	$0.12 \times 2$	$0.3 \times 0.4$	$0.03 \times 8$	$0.04 \times 6$
$0.1 \times 2.4$	$0.6 \times 0.4$	$0.2 \times 1.2$	$0.3 \times 0.4$	$0.6 \times 0.2$	$0.1 \times 1.2$	$0.3 \times 0.8$	$4 \times 0.06$	$0.02 \times 12$
$0.04 \times 6$	$0.03 \times 8$	$3 \times 0.04$	$0.06 \times 2$	$0.01 \times 12$	$30 \times 0.004$	$0.2 \times 0.6$	$2.4 \times 0.1$	$0.3 \times 0.8$
$0.02 \times 12$	$4 \times 0.06$	$0.4 \times 0.3$	$0.4 \times 6$	$0.6 \times 0.2$	$0.1 \times 24$	$0.3 \times 0.4$	$0.12 \times 2$	$6 \times 0.04$
$2 \times 1.2$	$4 \times 0.03$	$0.2 \times 0.6$	$4 \times 0.3$	$3 \times 0.04$	$0.06 \times 20$	$0.06 \times 2$	$0.1 \times 1.2$	$2.4 \times 0.1$
$1.2 \times 3$	$0.2 \times 0.6$	$4 \times 0.03$	$0.6 \times 0.2$	$2 \times 0.06$	$0.01 \times 12$	$0.4 \times 0.3$	$0.01 \times 12$	$2 \times 1.8$
$30 \times 0.12$	$1.8 \times 2$	$0.01 \times 12$	$0.01 \times 12$	$0.4 \times 0.3$	$0.6 \times 0.2$	$0.2 \times 0.6$	$40 \times 0.09$	$60 \times 0.06$
$6 \times 0.6$	$400 \times 0.009$	$0.6 \times 0.2$	$3 \times 0.04$	$0.06 \times 2$	$0.01 \times 12$	$4 \times 0.03$	$30 \times 0.12$	$18 \times 0.2$
$9 \times 0.4$	$0.2 \times 18$	$6 \times 0.6$	$4 \times 0.9$	$1.2 \times 0.3$	$6 \times 0.06$	$1.8 \times 2$	$0.4 \times 9$	$1.2 \times 3$

**Challenge Question:** Write a multiplication calculation with a decimal number with an answer of 8, 16 and 24

# Christmas Mental Calculations

**Brown**

**Blue**

**Red**

**Black**

**White**

**Green**

0.12

0.24

0.36

1.2

2.4

3.6

$0.2 \times 1.2$	$0.12 \times 1$	$3 \times 0.08$	$2 \times 0.06$	$6 \times 0.04$	$4 \times 0.03$	$12 \times 0.02$	$0.2 \times 0.6$	$2.4 \times 0.1$
$0.3 \times 0.8$	$4 \times 0.06$	$3 \times 0.04$	$2 \times 0.12$	$2.4 \times 0.1$	$0.12 \times 2$	$0.3 \times 0.4$	$0.03 \times 8$	$0.04 \times 6$
$0.1 \times 2.4$	$0.6 \times 0.4$	$0.2 \times 1.2$	$0.3 \times 0.4$	$0.6 \times 0.2$	$0.1 \times 1.2$	$0.3 \times 0.8$	$4 \times 0.06$	$0.02 \times 12$
$0.04 \times 6$	$0.03 \times 8$	$3 \times 0.04$	$0.06 \times 2$	$0.01 \times 12$	$30 \times 0.004$	$0.2 \times 0.6$	$2.4 \times 0.1$	$0.3 \times 0.8$
$0.02 \times 12$	$4 \times 0.06$	$0.4 \times 0.3$	$0.4 \times 6$	$0.6 \times 0.2$	$0.1 \times 24$	$0.3 \times 0.4$	$0.12 \times 2$	$6 \times 0.04$
$2 \times 1.2$	$4 \times 0.03$	$0.2 \times 0.6$	$4 \times 0.3$	$3 \times 0.04$	$0.06 \times 20$	$0.06 \times 2$	$0.1 \times 1.2$	$2.4 \times 0.1$
$1.2 \times 3$	$0.2 \times 0.6$	$4 \times 0.03$	$0.6 \times 0.2$	$2 \times 0.06$	$0.01 \times 12$	$0.4 \times 0.3$	$0.01 \times 12$	$2 \times 1.8$
$30 \times 0.12$	$1.8 \times 2$	$0.01 \times 12$	$0.01 \times 12$	$0.4 \times 0.3$	$0.6 \times 0.2$	$0.2 \times 0.6$	$40 \times 0.09$	$60 \times 0.06$
$6 \times 0.6$	$400 \times 0.009$	$0.6 \times 0.2$	$3 \times 0.04$	$0.06 \times 2$	$0.01 \times 12$	$4 \times 0.03$	$30 \times 0.12$	$18 \times 0.2$
$9 \times 0.4$	$0.2 \times 18$	$6 \times 0.6$	$4 \times 0.9$	$1.2 \times 0.3$	$6 \times 0.06$	$1.8 \times 2$	$0.4 \times 9$	$1.2 \times 3$

**Challenge Question:** Write a multiplication calculation with a decimal number with an answer of 8, 16 and 24

**Possible answers:**  $0.8 \times 10$ ,  $0.04 \times 400$ ,  $0.012 \times 2000$

# Christmas Mental Calculations

Solve the calculations to reveal the hidden picture.

Each answer has a special colour.

Red	Black	White	Yellow/Gold	Purple	Blue
prime number > 5	square number > 9	cube number	factor of 75 > 3	factor of 72	not a prime, square > 9 or cube or factor of 72 or 75

17	41	73	10	50	30	28	62	38
13	29	89	26	48	68	60	34	42
43	71	61	46	52	5	66	75	14
37	19	31	58	75	62	5	66	15
53	7	59	14	52	5	15	75	22
125	27	125	56	18	2	25	18	4
81	144	16	32	15	5	75	15	75
49	16	121	20	4	18	15	12	2
81	121	144	100	12	72	5	72	4
144	16	49	81	24	9	75	4	2

**Challenge Question:** What number could be in 2 different colour squares?

# Christmas Mental Calculations

Red

Black

White

Yellow/Gold

Purple

Blue

prime  
number > 5

square  
number > 9

cube number

factor of  
75 > 3

factor of 72

not a prime,  
square > 9 or  
cube or factor  
of 72 or 75

17	41	73	10	50	30	28	62	38
13	29	89	26	48	68	60	34	42
43	71	61	46	52	5	66	75	14
37	19	31	58	75	62	5	66	15
53	7	59	14	52	5	15	75	22
125	27	125	56	18	4	25	18	4
81	144	16	32	15	5	75	15	75
49	16	121	20	4	18	15	12	2
81	121	144	100	12	72	5	72	4
144	16	49	81	24	9	75	4	2

**Challenge Question:** What number could be in 2 different colour squares?

64 (82 and 43)