

## Year 9 - Worksheet 4



### PUZZLES

I am thinking of a number. If I treble it and subtract 3, the answer is 48. What is the number?

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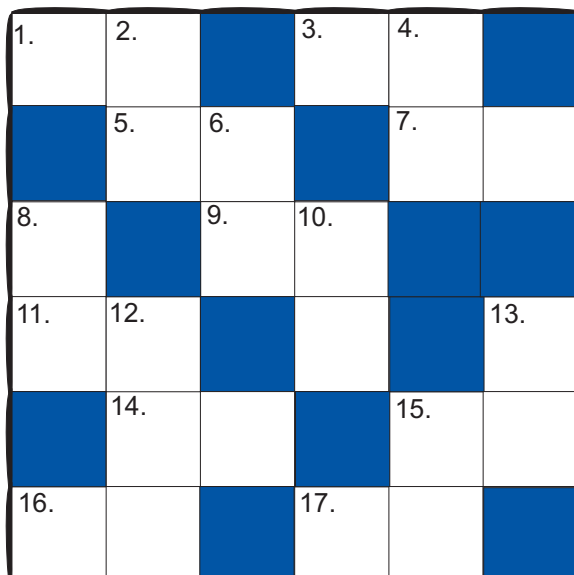
You have a 10 cm × 10 cm cube that is made from 1 cm × 1 cm cubes. If you painted the outside of the big cube blue, how many of the small 1 cm cubes would get painted?

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### EQUATION SOLVING

Solve the following equations:

- |    |           |       |     |            |       |
|----|-----------|-------|-----|------------|-------|
| 1. | $3x = 6$  | _____ | 6.  | $5x = 95$  | _____ |
| 2. | $5x = 15$ | _____ | 7.  | $6x = 126$ | _____ |
| 3. | $4x = 8$  | _____ | 8.  | $11x = 11$ | _____ |
| 4. | $2x = 22$ | _____ | 9.  | $5x = 0$   | _____ |
| 5. | $3x = 30$ | _____ | 10. | $2x = 132$ | _____ |



### CROSS NUMBER

#### Across

1.  $2x = 24$
3.  $2(x - 3) = 16$
5.  $2x - 1 = 81$
7.  $x \div 10 = 4$
9.  $(x - 1) \div 5 = 8$
11.  $x \div 5 = 3$
14.  $2x + 1 = 27$
15.  $x \div 2 = 20$
16.  $x \div 3 = 8$
17.  $5x - 3 = 2x + 60$

#### Down

2.  $x \div 3 = 8$
4.  $2x - 3 = 25$
6.  $2(x + 6) = 40$
8.  $2x + 3 = x + 14$
10.  $x - 3 = 7$
12.  $(3x + 4) \div 2 = 773$
13.  $2x + 3 = 23$
15.  $(x - 1) \div 5 = 8$

Solve the following equations:

1.  $\frac{x}{3} = 2$  \_\_\_\_\_

2.  $\frac{x}{5} = 4$  \_\_\_\_\_

3.  $\frac{x}{6} = 6$  \_\_\_\_\_

4.  $\frac{x}{5} = 11$  \_\_\_\_\_

5.  $\frac{x}{2} = 1$  \_\_\_\_\_

6.  $\frac{x}{11} = 3$  \_\_\_\_\_

7.  $\frac{x}{5} = 0$  \_\_\_\_\_

8.  $\frac{x}{x} = 1$  \_\_\_\_\_

9.  $\frac{x}{0} = 0$  \_\_\_\_\_

10.  $\frac{x}{8} = \frac{1}{2}$  \_\_\_\_\_

### QUICK QUESTIONS

1.  $235 + 193 =$  \_\_\_\_\_

2.  $121 - 96 =$  \_\_\_\_\_

3.  $6 \times 5 - 11 \times 2 =$  \_\_\_\_\_

4.  $4 + 4 \times 4 \times 0 =$  \_\_\_\_\_

5. Find the missing numbers:  
17, 21, \_\_\_\_\_, 29, \_\_\_\_\_, 37

6. What is 10% of 450?  
\_\_\_\_\_

7. Convert 0.07 to a percentage.  
\_\_\_\_\_

8. What are the factors of 24.  
\_\_\_\_\_

9. List the prime numbers  
between 5 and 15.  
\_\_\_\_\_

10.  $\frac{3}{7} - \frac{1}{6}$  \_\_\_\_\_

### PUZZLE

The stairway shown is made of cubes. How many cubes would be needed to make the stairway if the steps at the end were 9 cubes high?



## EQUATION SOLVING

Solve the following equations

1.  $x + 3 = 11$

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2.  $x - 3 = 7$

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3.  $x \div 3 = 5$

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4.  $7x = 2x - 15$

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5.  $27x = 15x + 72$

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6.  $2x - 1 = 7$

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7.  $3x - 5 = 19$

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8.  $6x - 18 = 2x + 10$

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9.  $5x - 7 = -22$

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10.  $7x + 3 = 3x - 13$

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## QUICK CALCULATIONS

Calculate these without a calculator.

1.  $5 \times 27 \times 2$

= \_\_\_\_\_

2.  $20 \times 42 \times 5$

= \_\_\_\_\_

3.  $25 \times 9 \times 4$

= \_\_\_\_\_

4.  $50 \times 17 \times 20$

= \_\_\_\_\_

5.  $10 \times 33 \times 10$

= \_\_\_\_\_

Remember:  $99 = 100 - 1$

$9 = 10 - 1$

6.  $25 \times 99$

= \_\_\_\_\_

7.  $19 \times 9$

= \_\_\_\_\_

8.  $0.5 \times 5 \times 20$

= \_\_\_\_\_

9.  $210 \times 201$

= \_\_\_\_\_

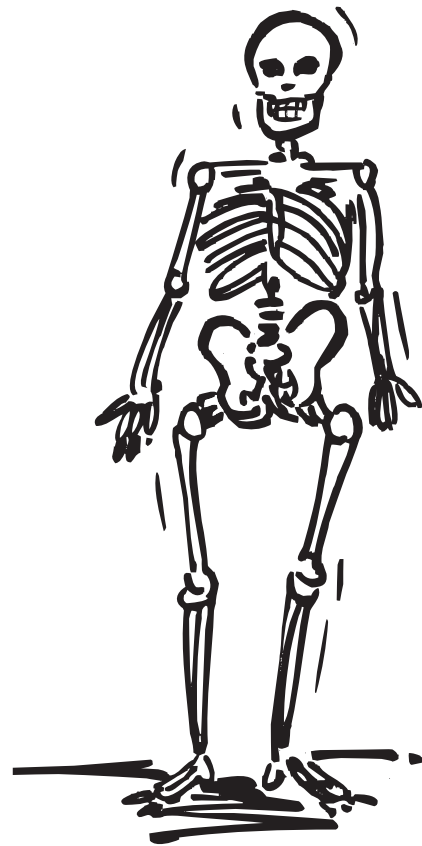
10.  $80 \times 101$

= \_\_\_\_\_

# HOW OLD ARE THE CELLS OF A BODY?

Solve the following equations. Find the answer in the column opposite and place the letter in the table below.

<b>T</b>	1. $2x = 16$
<b>H</b>	2. $x - 2 = 4$
<b>E</b>	3. $\frac{x}{5} = 3$
<b>O</b>	4. $9x + 2 = 7x - 12$
<b>L</b>	5. $7x - 1 = 6$
<b>D</b>	6. $\frac{x}{5} = -2$
<b>S</b>	7. $5x - 2 = 14 - 3x$
<b>I</b>	8. $2(x - 1) = 8$
<b>V</b>	9. $5x - 2 = 2x + 7$
<b>N</b>	10. $3x + 1 = -11$
<b>Y</b>	11. $3x - 1 = 11$
<b>A</b>	12. $4x + 3 = -7 - x$
<b>R</b>	13. $4x - 2 = x + 19$




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<b>8</b>	<b>6</b>	<b>15</b>		<b>-7</b>	<b>1</b>	<b>-10</b>	<b>15</b>	<b>2</b>	<b>8</b>		<b>5</b>	<b>2</b>

<b>2</b>	<b>15</b>	<b>3</b>	<b>15</b>	<b>-4</b>		<b>4</b>	<b>15</b>	<b>-2</b>	<b>7</b>	<b>2</b>		<b>-7</b>	<b>1</b>	<b>-10</b>

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