

# Crack the Vault Code

Someone locked the vault with a 4-digit code. Work out what each shape is worth and crack it.

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

## 1 THE KEY

$$\blacksquare = 10 \quad \text{?} = \square \quad \blacklozenge = 11 \quad \text{?} = \square \quad \bullet = 6 \quad \text{⚡} = \square$$

Every symbol is a whole number from 1 to 15. A number in front of a shape means multiply: 2 stars = 2 x star.

## 2 FIND THE MISSING VALUES

Some shapes in the key are missing. Use these to work them out, in order, and write them into the key.

$$\text{⚡} + \blacklozenge = 15$$

$$\blacklozenge + \blacklozenge + \blacklozenge = 42$$

$$\blacksquare + \blacksquare + \blacksquare = 15$$

## 3 CRACK THESE

$$1. \quad 100 \text{⚡} + \bullet = \square$$

$$2. \quad \blacksquare \times \blacklozenge = \square$$

CODE 1

$$3. \quad \blacklozenge \times \bullet = \square$$

$$4. \quad \bullet \times \blacklozenge - \text{⚡} = \square$$

CODE 2

$$5. \quad \blacklozenge \times \blacklozenge - \blacksquare = \square$$

$$6. \quad (\blacksquare + \bullet) \times \blacklozenge = \square$$

CODE 3

$$7. \quad 10 \text{⚡} - \blacksquare = \square$$

$$8. \quad 10 \blacksquare - \blacksquare = \square$$

CODE 4

$$9. \quad 3 \text{⚡} + 2 \blacksquare = \square$$

$$10. \quad \blacksquare \times \bullet + \text{⚡} = \square$$

## 4 THE VAULT CODE

Write the ONES digit of your answers to problems 2, 4, 6, 8 (the ones tagged CODE 1-4), in that order. That opens the vault.

# Answer Key

Crack the Vault Code · Grade 4 Crack the Code

## The key

 square = **10**    
  pentagon = **14** (hidden)    
  diamond = **11**    
  hexagon = **5** (hidden)    
  circle = **6**  
 lightning bolt = **4** (hidden)

Every symbol is a whole number from 1 to 15.

- |     |                                                                                             |            |
|-----|---------------------------------------------------------------------------------------------|------------|
| 1.  | $100 \text{ ⚡} + \bullet$ (100 x lightning bolt + circle)                                   | <b>406</b> |
| 2.  | $\hexagon \times \text{pentagon}$ (hexagon x pentagon)                                      | <b>70</b>  |
| 3.  | $\text{pentagon} \times \bullet$ (pentagon x circle)                                        | <b>84</b>  |
| 4.  | $\bullet \times \text{diamond} - \text{lightning bolt}$ (circle x diamond - lightning bolt) | <b>62</b>  |
| 5.  | $\text{pentagon} \times \text{diamond} - \text{square}$ (pentagon x diamond - square)       | <b>144</b> |
| 6.  | $(\text{hexagon} + \bullet) \times \text{pentagon}$ ((hexagon + circle) x pentagon)         | <b>154</b> |
| 7.  | $10 \text{ ⚡} - \text{square}$ (10 x lightning bolt - square)                               | <b>30</b>  |
| 8.  | $10 \text{ hexagon} - \text{square}$ (10 x hexagon - square)                                | <b>40</b>  |
| 9.  | $3 \text{ ⚡} + 2 \text{ hexagon}$ (3 x lightning bolt + 2 x hexagon)                        | <b>22</b>  |
| 10. | $\text{square} \times \bullet + \text{lightning bolt}$ (square x circle + lightning bolt)   | <b>64</b>  |

Vault code: **0 2 4 0**