



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

$\blacksquare = 10$

$\text{pentagon with ?} = \square$

$\blacklozenge = 11$

$\text{hexagon with ?} = \square$

$\bullet = 6$

$\text{lightning bolt} = \square$

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.

$\text{lightning bolt} + \blacklozenge = 15$

$\text{pentagon} + \text{pentagon} + \text{pentagon} = 42$

$\text{hexagon} + \text{hexagon} + \text{hexagon} = 15$

3 CRACK THESE

1. $100 \text{ lightning bolt} + \bullet = \square$

2. $\text{hexagon} \times \text{pentagon} = \square$

CODE 1

3. $\text{pentagon} \times \bullet = \square$

4. $\bullet \times \blacklozenge - \text{lightning bolt} = \square$

CODE 2

5. $\text{pentagon} \times \blacklozenge - \blacksquare = \square$

6. $(\text{hexagon} + \bullet) \times \text{pentagon} = \square$

CODE 3

7. $10 \text{ lightning bolt} - \blacksquare = \square$

8. $10 \text{ hexagon} - \blacksquare = \square$

CODE 4

9. $3 \text{ lightning bolt} + 2 \text{ hexagon} = \square$

10. $\blacksquare \times \bullet + \text{lightning bolt} = \square$

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

Vault code: **0 2 4 0**