

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

$$\bigcirc = 2 \quad \text{⚡} = \boxed{} \quad \blacktriangle = 9 \quad \heartsuit = \boxed{} \quad \text{☾} = 10 \quad \blacklozenge = 11$$

Every symbol is a whole number from 1 to 12. 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.

$$3 \heartsuit = 24$$

$$\heartsuit - \text{⚡} = 2$$

3 CRACK THESE

$$1. \quad 5 \blacktriangle - \text{⚡} = \boxed{}$$

$$2. \quad \bigcirc \times \blacktriangle + \blacklozenge = \boxed{}$$

CODE 1

$$3. \quad \blacklozenge \times \text{⚡} + \heartsuit = \boxed{}$$

$$4. \quad \blacklozenge \times \blacktriangle = \boxed{}$$

CODE 2

$$5. \quad 2 \blacklozenge + \text{⚡} = \boxed{}$$

$$6. \quad 3 \text{⚡} - \text{☾} = \boxed{}$$

CODE 3

$$7. \quad \text{☾} \times \text{⚡} - \heartsuit = \boxed{}$$

$$8. \quad 10 \bigcirc + \blacklozenge = \boxed{}$$

CODE 4

$$9. \quad \bigcirc + \text{☾} + \blacklozenge = \boxed{}$$

$$10. \quad \text{⚡} \times \bigcirc = \boxed{}$$

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 3 Crack the Code

The key

 ring = **2**
  lightning bolt = **6** (hidden)
  triangle = **9**
  heart = **8** (hidden)
  moon = **10**
 diamond = **11**

Every symbol is a whole number from 1 to 12.

- | | | |
|-----|--|-----------|
| 1. | $5 \triangle - \text{lightning bolt}$ (5 x triangle - lightning bolt) | 39 |
| 2. | $\bigcirc \times \triangle + \blacklozenge$ (ring x triangle + diamond) | 29 |
| 3. | $\blacklozenge \times \text{lightning bolt} + \heartsuit$ (diamond x lightning bolt + heart) | 74 |
| 4. | $\blacklozenge \times \triangle$ (diamond x triangle) | 99 |
| 5. | $2 \blacklozenge + \text{lightning bolt}$ (2 x diamond + lightning bolt) | 28 |
| 6. | $3 \text{lightning bolt} - \text{moon}$ (3 x lightning bolt - moon) | 8 |
| 7. | $\text{moon} \times \text{lightning bolt} - \heartsuit$ (moon x lightning bolt - heart) | 52 |
| 8. | $10 \bigcirc + \blacklozenge$ (10 x ring + diamond) | 31 |
| 9. | $\bigcirc + \text{moon} + \blacklozenge$ (ring + moon + diamond) | 23 |
| 10. | $\text{lightning bolt} \times \bigcirc$ (lightning bolt x ring) | 12 |

Vault code: **9 9 8 1**