

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

$$\text{⚡} = 6 \quad \blacksquare = 12 \quad \blacktriangle = 8 \quad \heartsuit = \boxed{} \quad \text{?} = \boxed{} \quad \blacklozenge = 5$$

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.

$$\bigcirc + \bigcirc + \bigcirc = 30$$

$$2 \heartsuit = 22$$

3 CRACK THESE

$$1. \bigcirc \times \blacksquare = \boxed{}$$

$$2. \blacklozenge \times \heartsuit - \text{⚡} = \boxed{}$$

CODE 1

$$3. 5 \blacktriangle - \heartsuit = \boxed{}$$

$$4. 3 \text{⚡} - \blacktriangle = \boxed{}$$

CODE 2

$$5. \heartsuit + \bigcirc + \blacksquare = \boxed{}$$

$$6. \text{⚡} \times \blacksquare = \boxed{}$$

CODE 3

$$7. 3 \blacklozenge - \bigcirc = \boxed{}$$

$$8. \blacklozenge \times \blacktriangle - \heartsuit = \boxed{}$$

CODE 4

$$9. 5 \bigcirc - \blacksquare = \boxed{}$$

$$10. 10 \blacktriangle + \text{⚡} = \boxed{}$$

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

 lightning bolt = 6
  square = 12
  triangle = 8
  heart = 11 (hidden)
  ring = 10 (hidden)

 pentagon = 5

Every symbol is a whole number from 1 to 12.

- | | | |
|-----|--|-----|
| 1. | $\bigcirc \times \blacksquare$ (ring x square) | 120 |
| 2. | $\text{pentagon} \times \heartsuit - \text{lightning bolt}$ | 49 |
| 3. | $5 \blacktriangle - \heartsuit$ (5 x triangle - heart) | 29 |
| 4. | $3 \text{lightning bolt} - \blacktriangle$ (3 x lightning bolt - triangle) | 10 |
| 5. | $\heartsuit + \bigcirc + \blacksquare$ (heart + ring + square) | 33 |
| 6. | $\text{lightning bolt} \times \blacksquare$ (lightning bolt x square) | 72 |
| 7. | $3 \text{pentagon} - \bigcirc$ (3 x pentagon - ring) | 5 |
| 8. | $\text{pentagon} \times \blacktriangle - \heartsuit$ (pentagon x triangle - heart) | 29 |
| 9. | $5 \bigcirc - \blacksquare$ (5 x ring - square) | 38 |
| 10. | $10 \blacktriangle + \text{lightning bolt}$ (10 x triangle + lightning bolt) | 86 |

Vault code: **9 0 2 9**