

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

$$\blacklozenge = 13 \quad \star = \square \quad + = 8 \quad \text{☾} = 12 \quad \text{⬡} = \square \quad \boxed{?} = \square$$

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.

$$\star + + = 23$$

$$4 \blacksquare = 24$$

$$\bullet \times + = 24$$

3 CRACK THESE

$$1. \quad 10 \bullet - + = \square$$

$$2. \quad (\blacklozenge + +) \times \blacksquare = \square$$

CODE 1

$$3. \quad 100 \bullet + \blacksquare = \square$$

$$4. \quad 3 \blacklozenge + 2 \blacksquare = \square$$

CODE 2

$$5. \quad 10 + - \star = \square$$

$$6. \quad 100 + + \text{☾} = \square$$

CODE 3

$$7. \quad \text{☾} \times \blacksquare + \star = \square$$

$$8. \quad \blacklozenge \times \text{☾} + + = \square$$

CODE 4

$$9. \quad \star \times + - \bullet = \square$$

$$10. \quad \star \times \bullet = \square$$

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

◆ diamond = **13** ★ star = **15** (hidden) + cross = **8** ☾ moon = **12** ⬡ hexagon = **3** (hidden)
 ■ square = **6** (hidden)

Every symbol is a whole number from 1 to 15.

- | | | |
|-----|--|------------|
| 1. | $10 \text{ ⬡ } - \text{ + }$ (10 x hexagon - cross) | 22 |
| 2. | $(\text{ ◆ } + \text{ + }) \times \text{ ■ }$ ((diamond + cross) x square) | 126 |
| 3. | $100 \text{ ⬡ } + \text{ ■ }$ (100 x hexagon + square) | 306 |
| 4. | $3 \text{ ◆ } + 2 \text{ ■ }$ (3 x diamond + 2 x square) | 51 |
| 5. | $10 \text{ + } - \text{ ★ }$ (10 x cross - star) | 65 |
| 6. | $100 \text{ + } + \text{ ☾ }$ (100 x cross + moon) | 812 |
| 7. | $\text{ ☾ } \times \text{ ■ } + \text{ ★ }$ (moon x square + star) | 87 |
| 8. | $\text{ ◆ } \times \text{ ☾ } + \text{ + }$ (diamond x moon + cross) | 164 |
| 9. | $\text{ ★ } \times \text{ + } - \text{ ⬡ }$ (star x cross - hexagon) | 117 |
| 10. | $\text{ ★ } \times \text{ ⬡ }$ (star x hexagon) | 45 |

Vault code: **6 1 2 4**