



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

$$\boxed{?} = \boxed{} \quad \blacklozenge = 5 \quad \textcircled{?} = \boxed{} \quad \blacklightning = 4 \quad \textcircled{?} = \boxed{} \quad \text{+} = 9$$

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.

$$4 \text{ } \textcircled{?} = 60$$

$$\bullet \times \blacklozenge = 60$$

$$2 \blacksquare = 26$$

3 CRACK THESE

$$1. (\blacksquare + \bullet) \times \blacklightning = \boxed{}$$

$$2. (\text{+} + \bullet) \times \blacklozenge = \boxed{}$$

CODE 1

$$3. \textcircled{?} \times \bullet + \text{+} = \boxed{}$$

$$4. \text{+} \times \blacksquare = \boxed{}$$

CODE 2

$$5. 10 \blacklightning - \textcircled{?} = \boxed{}$$

$$6. 100 \text{+} + \blacklozenge = \boxed{}$$

CODE 3

$$7. 3 \bullet + 2 \blacklightning = \boxed{}$$

$$8. \blacklightning \times \textcircled{?} - \bullet = \boxed{}$$

CODE 4

$$9. \blacklozenge \times \blacklightning = \boxed{}$$

$$10. 100 \blacklozenge + \bullet = \boxed{}$$

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 4 Crack the Code

The key

■ square = 13 (hidden)
 ❖ pentagon = 5
 ● circle = 12 (hidden)
 ⚡ lightning bolt = 4
 ☾ moon = 15 (hidden)
 + cross = 9

Every symbol is a whole number from 1 to 15.

- | | | |
|-----|---|-----|
| 1. | $(\blacksquare + \bullet) \times \text{⚡}$ ((square + circle) x lightning bolt) | 100 |
| 2. | $(+ + \bullet) \times \text{❖}$ ((cross + circle) x pentagon) | 105 |
| 3. | $\text{☾} \times \bullet + +$ (moon x circle + cross) | 189 |
| 4. | $+ \times \blacksquare$ (cross x square) | 117 |
| 5. | $10 \text{⚡} - \text{☾}$ (10 x lightning bolt - moon) | 25 |
| 6. | $100 + + \text{❖}$ (100 x cross + pentagon) | 905 |
| 7. | $3 \bullet + 2 \text{⚡}$ (3 x circle + 2 x lightning bolt) | 44 |
| 8. | $\text{⚡} \times \text{☾} - \bullet$ (lightning bolt x moon - circle) | 48 |
| 9. | $\text{❖} \times \text{⚡}$ (pentagon x lightning bolt) | 20 |
| 10. | $100 \text{❖} + \bullet$ (100 x pentagon + circle) | 512 |

Vault code: **5758**