

Deep Space Signal Decryption

Calculate the numerical value of each cosmic symbol to find the four-digit authorization code for the lunar research probe.

Name: _____ Date: _____

1 THE KEY

$$\text{⚡} = 4 \quad \text{⊕} = \boxed{} \quad \text{☾} = 19 \quad \text{◇?} = \boxed{} \quad \text{△?} = \boxed{} \quad \text{★} = 14$$

Every symbol is a whole number from 1 to 20. 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.

$$\text{▲} - \text{⚡} = 1$$

$$2\text{⊕} + \text{☾} = 55$$

$$\text{◆} \times \text{★} = 84$$

3 CRACK THESE

$$1. \quad 10\text{◆} - \text{★} = \boxed{}$$

$$2. \quad \text{★} \times \text{☾} - \text{▲} \times \text{⊕} = \boxed{}$$

CODE 1

$$3. \quad \text{★} \times \text{⚡} \times \text{☾} = \boxed{}$$

$$4. \quad 3\text{⚡} + 2\text{◆} = \boxed{}$$

CODE 2

$$5. \quad \text{▲} \times \text{◆} \times \text{☾} = \boxed{}$$

$$6. \quad \text{★} \times (\text{⊕} - \text{◆}) = \boxed{}$$

CODE 3

$$7. \quad 10\text{⊕} - \text{⚡} = \boxed{}$$

$$8. \quad \text{⊕} \div 2 + \text{▲} = \boxed{}$$

CODE 4

$$9. \quad \text{⊕} + \text{⚡} \times \text{★} = \boxed{}$$

$$10. \quad (\text{☾} + \text{▲}) \times \text{⊕} = \boxed{}$$

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 lunar research probes.

Answer Key

Deep Space Signal Decryption · Grade 5 Crack the Code

The key

⚡ lightning bolt = 4 + cross = 18 (hidden) ☾ moon = 19 ♦ diamond = 6 (hidden)
 ▲ triangle = 5 (hidden) ★ star = 14

Every symbol is a whole number from 1 to 20.

- | | | |
|-----|--|------|
| 1. | $10♦ - ★$ (10 x diamond - star) | 46 |
| 2. | $★ \times ☾ - ▲ \times +$ (star x moon - triangle x cross) | 176 |
| 3. | $★ \times ⚡ \times ☾$ (star x lightning bolt x moon) | 1064 |
| 4. | $3⚡ + 2♦$ (3 x lightning bolt + 2 x diamond) | 24 |
| 5. | $▲ \times ♦ \times ☾$ (triangle x diamond x moon) | 570 |
| 6. | $★ \times (+ - ♦)$ (star x (cross - diamond)) | 168 |
| 7. | $10+ - ⚡$ (10 x cross - lightning bolt) | 176 |
| 8. | $+ \div 2 + ▲$ (cross / 2 + triangle) | 14 |
| 9. | $+ + ⚡ \times ★$ (cross + lightning bolt x star) | 74 |
| 10. | $(☾ + ▲) \times +$ ((moon + triangle) x cross) | 432 |

Vault code: **6 4 8 4**