



Factor Theorem - Find a Coefficient Given a Value of the Function

1 $f(x) = x^4 + 4x^3 - 5x^2 + ax - 36$

Given $f(1) = -72$, find the value of a .

- | | | | |
|-----|-----|-----|----|
| A | B | C | D |
| -37 | -35 | -36 | 36 |

2 Given $f(-3) = -6$, find the value of a .

$$f(x) = x^3 + x^2 + ax - 12$$

- | | | | |
|----|---|----|----|
| A | B | C | D |
| -7 | 8 | -9 | -8 |

3 Given $f(3) = 10$, find the value of a .

$$f(x) = x^3 + ax^2 - 4x + 4$$

- | | | | |
|---|---|----|----|
| A | B | C | D |
| 1 | 0 | -1 | -2 |

4 Given $f(-1) = 0$, find the value of a .

$$f(x) = x^4 + ax^3 - x^2$$

- | | | | |
|---|---|----|---|
| A | B | C | D |
| 2 | 1 | -1 | 0 |

5 Given $f(-3) = -90$, find the value of a .

$$f(x) = x^3 - 5x^2 + 6x + a$$

- | | | | |
|----|---|---|---|
| A | B | C | D |
| -1 | 0 | 2 | 1 |

6 $f(x) = x^5 + 5x^4 + 3x^3 - 9x^2 + a$

Given $f(-1) = -8$, find the value of a .

- | | | | |
|---|---|---|----|
| A | B | C | D |
| 2 | 0 | 1 | -1 |

7 Given $f(-2) = -75$, find the value of a .

$$f(x) = x^3 - 7x^2 + ax - 9$$

- | | | | |
|----|----|----|-----|
| A | B | C | D |
| 14 | 15 | 16 | -15 |

8 $f(x) = x^4 + x^3 - 15x^2 - 9x + a$

Given $f(2) = 0$, find the value of a .

- | | | | |
|----|-----|----|----|
| A | B | C | D |
| 54 | -54 | 55 | 53 |