#### Study Island

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**1.** Factor the polynomial below.

*x*2 + 7*x* + 12

|  |  |
| --- | --- |
|  | **A.** (*x* + 3)(*x* + 4) |

|  |  |
| --- | --- |
|  | **B.** (*x* - 3)(*x* + 4) |

|  |  |
| --- | --- |
|  | **C.** (*x* - 3)(*x* - 4) |

|  |  |
| --- | --- |
|  | **D.** (*x* + 3)(*x* - 4) |

**2.** Factor the following polynomial completely.

-0.9*x*2 - 1.8*x* + 21.6

|  |  |
| --- | --- |
|  | **A.** -0.9(*x* + 6)(*x* - 4) |

|  |  |
| --- | --- |
|  | **B.** -0.9(*x*2 + 2*x* - 24) |

|  |  |
| --- | --- |
|  | **C.** 0.9(*x* + 6)(*x* - 4) |

|  |  |
| --- | --- |
|  | **D.** -0.9(*x* + 6)(*x* + 4) |

**3.** Factor the following expression completely.

*x*4 - 81

|  |  |
| --- | --- |
|  | **A.** (*x* - 3)(*x* + 3)(*x* - 3)(*x* + 3) |

|  |  |
| --- | --- |
|  | **B.** (*x* - 3)(*x* + 3)(*x*2 + 9) |

|  |  |
| --- | --- |
|  | **C.** (*x*2 - 9)(*x*2 + 9) |

|  |  |
| --- | --- |
|  | **D.** (*x* - 3)(*x*3 + 27) |

**4.** Factor the polynomial completely.

3*x*3 + 15*x*2 - 108*x*

|  |  |
| --- | --- |
|  | **A.** 3*x*(*x* - 9)(*x* + 4) |

|  |  |
| --- | --- |
|  | **B.** 3*x*(*x* + 9)(*x* - 4) |

|  |  |
| --- | --- |
|  | **C.** 3(*x*2 - 4)(*x* + 9) |

|  |  |
| --- | --- |
|  | **D.** 3(*x*2 + 9)(*x* - 4) |

**5.** Factor the following expression completely.

2*x*2 - 2

|  |  |
| --- | --- |
|  | **A.** 2(*x* - 1)2 |

|  |  |
| --- | --- |
|  | **B.** 2(*x* + 1)(*x* - 1) |

|  |  |
| --- | --- |
|  | **C.** (2*x* + 1)(*x* - 1) |

|  |  |
| --- | --- |
|  | **D.** 2(*x*2 - 1) |