Lesson 18: Overcoming a Second Obstacle in Factoring—What If There Is a Remainder?

Classwork

Opening Exercise

Write the rational number as a mixed number.

**Example 1**

|  |  |
| --- | --- |
| * 1. Find the quotient by factoring the numerator.
 | * 1. Find the quotient.
 |

**Example 2**

|  |  |
| --- | --- |
| * 1. Find the quotient by factoring the numerator.
 | * 1. Find the quotient.
 |

Exercises 1–10

Find each quotient by inspection.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |

Find each quotient by using the reverse tabular method.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |

Find each quotient by using long division.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |

Rewrite the numerator in the form by completing the square. Then find the quotient.

|  |  |
| --- | --- |
|  |  |

Mental Math

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

Problem Set

1. For each pair of problems, find the first quotient by factoring the numerator. Then, find the second quotient by using the first quotient.

|  |  |  |
| --- | --- | --- |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

Find each quotient by using the reverse tabular method.

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
|  |  |  |  |

Find each quotient by using long division.

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

1. Rewrite the numerator in the form by completing the square. Then, find the quotient.