Math 10: Polynomials 5.5 **Factoring *x*2 + *bx* + *c***

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Block: \_\_\_\_\_\_\_\_\_

1. **Complete the tables to find two numbers with the given sum and the given product.**

|  |  |  |
| --- | --- | --- |
| **Sum** | **Product** | **Integers** |
| -1 | -6 |  |
| -2 | -15 |  |
| 10 | -24 |  |
| 5 | -6 |  |

|  |  |  |
| --- | --- | --- |
| **Sum** | **Product** | **Integers** |
| 12 | 20 |  |
| 8 | 7 |  |
| -9 | 18 |  |
| -26 | 48 |  |

a. b.

1. **a. If the product is positive and the sum is negative, then the two integers must be \_\_\_\_\_\_\_\_\_\_\_\_\_**.

**b. If the product is negative, then the two integers must be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**.

1. **Factor, if possible.**
2.  b.  c. 

d.  e.  f. 

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2.  b.  c. 

d.  e.  f. 

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a.  b.  c. 

d.  e.  f. 

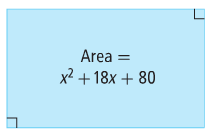
g.  h.  i. 

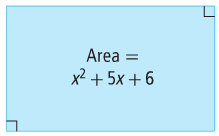
j.  k.  l. 

m.  n.  o. 

1. **a. Identify binomials that represent the length and width of each rectangle.**

**b. Calculate the dimensions of the rectangle if *x* = 3 cm.**





i. ii.

1. **Factor completely.**

a.  b.  c. 

d.  e.  f. 

g.  h.  i. 

1. **List all values of *k* for which the trinomial can be factored over the integers.**

a.  b. 

**Answers:**

1a.10,2 ; 7,1 ; -9,-2 ; -24,-2 b. -3,2 ; -5,3 ; 12,-2 ; 6,-1 2a. *negative* b. *opposite sign*

3a.  b.  c.  d. *not factorable* e.  f. 

4a.  b.  c.  d.  e.  f. 

5a. b.  c. *not factorable* d.  e.  f. 

g.  h. *not factorable* i.  j.  k.  l. 

m.  n.  o. 

6i) a.  b.  ii) a.  b. 

7i) a.  b. 5 by 6 ii) a.  b. 13 by 11

8a.  b.  c.  d.  e.  f. 

g.  h.  i.  9a.  b. 