

Name: _____

Date: _____

Algebra Factoring By Grouping



Find the greatest common factor of the numbers shown:

1. $-64h + 3 \cdot 29 + 2 = (5+4)^2 + 16 - 60h$
 $-64h + 89 = 97 - 60h$
 $-64h = 8 - 60h$
 $\frac{1}{-4} \times -4h = \frac{1}{-4} \times 8$
 $-4h = 8$
 $h = -2$

2. $-(1+5)^2 - 5 - 13r = -15r + 6 \cdot -9 + 3$
 $-41 - 13r = -15r - 51$
 $-13r = -15r - 10$
 $\frac{1}{2} \times 2r = \frac{1}{2} \times -10$
 $2r = -10$
 $r = -5$

3. $(4+4)^2 + 1 - 29r = -39r + 3 \cdot 65 + 0$
 $65 - 29r = -39r + 195$
 $-29r = -39r + 130$
 $\frac{1}{10} \times 10r = \frac{1}{10} \times 130$
 $10r = 130$
 $r = 13$

4. $-79l + 4 \cdot 12 + 0 = (2+2)^2 + 2 - 76l$
 $-79l + 48 = 18 - 76l$
 $-79l = -30 - 76l$
 $\frac{1}{-3} \times -3l = \frac{1}{-3} \times -30$
 $-3l = -30$
 $l = 10$

5. $(5+3)^2 + 6 - 85t = -81t + 6 \cdot 15 + 4$
 $70 - 85t = -81t + 94$
 $-85t = -81t + 24$
 $\frac{1}{-4} \times -4t = \frac{1}{-4} \times 24$
 $-4t = 24$
 $t = -6$

6. $71a + 3 \cdot 23 + 2 = (1+6)^2 + 14 + 63a$
 $71a + 71 = 63 + 63a$
 $71a = -8 + 63a$
 $\frac{1}{8} \times 8a = \frac{1}{8} \times -8$
 $8a = -8$
 $a = -1$