

Groups of 2 ... NO groups of 3 or more !!!

Thinking

Notes

Participation



Objective:

To find the factors of quadratics and apply these factors to graphs.

Int. Geo

Name _____ ID: 1

Factoring Worksheet

Date _____ Period _____

Factor each completely.

1) $x^2 + 8x + 7$

2) $k^2 - 4k + 3$

3) $m^2 - 5m - 36$

4) $b^2 - 13b + 40$

5) $28n^2 - 44n - 120$

6) $5r^2 - 37r + 42$

7) $\frac{6x^3 + 4x^2}{2x^2} \cdot \frac{1}{2x^2}$

$$\textcircled{1} \text{GCF } 2x^2(3x+2)$$

8) $60p^2 + 42p - 72$

9) $30v^3 - 25v^2 + 5v$

10) $9b^3 + 54b^2$

11) $6x^2 - 31x + 18$

12) $10v^2 + 49v + 18$

$$11) 6x^2 - 31x + 18 \rightarrow \begin{array}{l} 1 \cdot 18 \\ 2 \cdot 9 \\ 3 \cdot 6 \end{array} \quad \begin{array}{l} -1 \cdot -18 \\ -2 \cdot -9 \\ -3 \cdot -6 \end{array}$$

$\begin{array}{l} 1 \cdot 6 \\ 2 \cdot 3 \end{array}$

"Star" *

$$(x \quad \quad)(6x \quad \quad)$$

$$(2x - 9) \text{ or } (3x - 2)$$

$$6x^2 - 4x - 27x + 18$$

$$6x^2 - 31x + 18$$

11) $6x^2 - 31x + 18$

$6(18) = 108$
FACTOR

* $\left(\frac{6x - 4}{2} \right) \left(\frac{6x - 27}{3} \right)$

$(3x - 2)(2x - 9)$

$\left. \begin{array}{l} \text{Add} \\ \text{to} \\ -31 \end{array} \right\} \begin{array}{l} -1 \cdot 108 \\ -2 \cdot 54 \\ -3 \cdot 36 \\ -4 \cdot 27 \\ -6 \cdot 18 \\ -9 \cdot 12 \\ -12 \cdot 9 \end{array}$

6) $5r^2 - 37r + 42$

\downarrow \downarrow
 $5 \cdot 1$ $1 \cdot 42$
 $2 \cdot 21$
 $3 \cdot 14$
 $6 \cdot 7$

~~$-1 \cdot -42$~~
 ~~$-2 \cdot -21$~~
 ~~$-3 \cdot -14$~~
 ~~$-6 \cdot -7$~~

(-37)

$(5r - 7)(r - 6)$

$-30r - 7r$
 $-37r$

Int. Geo

Name _____ ID: 1

Factoring Worksheet

Date _____ Period _____

Factor each completely.

1) $x^2 + 8x + 7$

$(x + 7)(x + 1)$

3) $m^2 - 5m - 36$

$(m + 4)(m - 9)$

5) $28n^2 - 44n - 120$

$4(7n + 10)(n - 3)$

7) $6x^3 + 4x^2$

$2x^2(3x + 2)$

9) $30v^3 - 25v^2 + 5v$

$5v(3v - 1)(2v - 1)$

11) $6x^2 - 31x + 18$

$(2x - 9)(3x - 2)$

2) $k^2 - 4k + 3$

$(k - 3)(k - 1)$

4) $b^2 - 13b + 40$

$(b - 5)(b - 8)$

6) $5r^2 - 37r + 42$

$(5r - 7)(r - 6)$

8) $60p^2 + 42p - 72$

$6(5p - 4)(2p + 3)$

10) $9b^3 + 54b^2$

$9b^2(b + 6)$

12) $10v^2 + 49v + 18$

$(2v + 9)(5v + 2)$

