

Quadratics Factoring Review

Factor each completely.

$a \cdot c = 504$

1) $27m^2 + 135m + 168$

$3(9m^2 + 45m + 56)$

$3(m + \frac{24}{9})(m + \frac{21}{9})$

$3(m + \frac{8}{3})(m + \frac{7}{3})$

$\{(3m+8)(3m+7)\}$

3) $6x^2 + 13x + 6$

$(x + \frac{4}{6})(x + \frac{9}{6})$

$(x + \frac{2}{3})(x + \frac{3}{2})$

$\{(3x+2)(2x+3)\}$

5) $9p^3 - 44p^2 - 60p$

$a \cdot c = -540$

$(9p^2 - 44p - 60)$

$p(p - \frac{54}{9})(p + \frac{10}{9})$

$p(p - 6)(9p + 10)$

7) $8v^2 - 10v - 25$

$a \cdot c = -200$

Box method

$(2v - 5)(4v + 5)$

$2v$	-20	10	5
$8v^2$	$-20v$		
$10v$	-25		

$\{(2v-5)(4v+5)\}$

9) $9v^2 + 47v + 10$

$a \cdot c = 90$

$\{(9v+2)(v+5)\}$

$9v$	v	5
$9v^2$	$45v$	
$2v$	10	

2) $9b^2 - 59b + 30$

$a \cdot c = 270$

$(b - \frac{54}{9})(b - \frac{5}{9})$

$(b - 6)(9b - 5)$

4) $9x^2 - 9x - 4$

$a \cdot c = -36$

$(x - \frac{12}{9})(x + \frac{3}{9})$

$(x - \frac{4}{3})(x + \frac{1}{3})$

$(3x - 4)(3x + 1)$

6) $24x^2 + 28x - 80$

$a \cdot c = -120$

$4(6x^2 + 7x - 20)$

$4(x - \frac{8}{6})(x + \frac{15}{6})$

$4(x - \frac{4}{3})(x + \frac{5}{3})$

$4(3x - 4)(3x + 5)$

8) $30x^2 - 9x - 12$

$3(10x^2 - 3x - 4)$

$\{(2x + 1)(5x - 4)\}$

$-40 < 5^{-8}$

$2x$	1
$10x^2$	$5x$
$-8x$	-4

10) $9m^3 - 52m^2 - 12m$

$a \cdot c = -108$

$m(9m^2 - 52m - 12)$

$\{(9m+2)(m-6)\}$

$9m$	2
$9m^2$	$2m$
$-54m$	-12

Quadratics Factoring Review #2

Date _____ Period _____

Factor each completely.

1) $32a^2 + 228a - 224$

$4(8a+57a-56)$

$4(a+8)(8a-7)$

$a \cdot c = -448$
 $\begin{array}{r} 64 \\ \times 7 \\ \hline 448 \end{array}$

2) $45k^2 - 135k + 40$

$5(9k^2 - 27k + 8)$

$5(k - \frac{24}{9})(k - \frac{3}{4})$

$5(3k-8)(3k-1)$

$a \cdot c = 72$
 $\begin{array}{r} 8 \\ \times 9 \\ \hline 72 \end{array}$

$-24 - 3$

3) $36m^3 - 222m^2 + 336m$

$6m(6m^2 - 37m + 56)$

$6m(m - \frac{21}{4})(m - \frac{16}{5})$

$6m(2m-7)(3m-8)$

5) $16r^3 + 172r^2 + 120r$

$(4r^2 + 43r + 30) \quad a \cdot c = 120$
 $\begin{array}{r} 40 \\ \times 3 \\ \hline 120 \end{array}$

$4r(r+40)(r+3)$

$4r(r+10)(4r+3)$

7) $10b^2 + 21b - 27$

$(b - \frac{9}{10})(b + \frac{30}{10}) \quad a \cdot c = -270$
 $\begin{array}{r} -9 \\ \times 30 \\ \hline 270 \end{array}$

$((10b-9)(b+3))$

9) $4r^2 + 15r - 54$

$(r - \frac{9}{4})(r + \frac{24}{4}) \quad a \cdot c = -216$
 $\begin{array}{r} -9 \\ \times 24 \\ \hline 216 \end{array}$

$((4r-9)(r+6))$

$a \cdot c = -448$
 $\begin{array}{r} 64 \\ \times 7 \\ \hline 448 \end{array}$

2) $45k^2 - 135k + 40$

$5(9k^2 - 27k + 8)$

$5(k - \frac{24}{9})(k - \frac{3}{4})$

$5(3k-8)(3k-1)$

$a \cdot c = 72$
 $\begin{array}{r} 8 \\ \times 9 \\ \hline 72 \end{array}$

$-24 - 3$

3) $a \cdot c = +336$

$-21 - 16$

4) $8x^2 + 11x - 10$

$(x - \frac{5}{8})(x + \frac{16}{8})$

$((8x-5)(x+2))$

$a \cdot c = -80$
 $\begin{array}{r} -8 \\ \times 10 \\ \hline -80 \end{array}$

6) $9r^2 + 26r - 40$

$(r + \frac{36}{9})(r - \frac{10}{9})$

$((r+4)(9r-10))$

$a \cdot c = -360$
 $\begin{array}{r} +36 \\ \times -10 \\ \hline -360 \end{array}$

8) $8x^2n - 90xn + 100n$

$2n(4x^2 - 45x + 50) \quad a \cdot c = 200$
 $\begin{array}{r} 20 \\ \times 5 \\ \hline 100 \end{array}$
 $2n(x - \frac{40}{4})(x - \frac{5}{4})$

$((2n(x-10)(4x-5))$

10) $54p^2 - 528p - 120$

$6(9p^2 - 88p - 20) \quad a \cdot c = -180$
 $\begin{array}{r} -90 \\ \times 2 \\ \hline -180 \end{array}$

$6(p - \frac{90}{9})(p + \frac{2}{9})$

$((6(p-10)(9p+2))$