

Quadratics Factoring Review

Factor each completely. $a \cdot c = 504$

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

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

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

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

$3(3m + 8)(3m + 7)$

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

$a \cdot c = 36$

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

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

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

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

$a \cdot c = -540$

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

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

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

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

$a \cdot c = -200$

Box method

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

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

	$2v$	-20	10	-5
$4v$	$8v^2$	$-20v$		
5	$10v$	-25		

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

$a \cdot c = -120$

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

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

$4(x - \frac{4}{3})(x + \frac{5}{2})$

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

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

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

$(2x + 1)(5x - 4)$

$-40 < -8$

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

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

$a \cdot c = 90$

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

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

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

$a \cdot c = -108$

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

$(9m + 2)(m - 6)$

	$9m$	2
m	$9m^2$	$2m$
-6	$-54m$	-12

Quadratics Factoring Review #2

Factor each completely.

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

$a \cdot c = -448$
 $64 \wedge -7$

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

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

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

$a \cdot c = 72$
 $-24 \wedge -3$

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

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

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

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

$a \cdot c = +336$
 $-21 \wedge -16$

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

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

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

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

$a \cdot c = -80$
 $-5 \wedge 16$

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

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

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

$a \cdot c = 120$
 $40 \wedge 3$

$4r^2 + 43r + 30$

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

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

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

$a \cdot c = -360$
 $+36 \wedge -10$

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

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

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

$a \cdot c = -270$
 $-9 \wedge 30$

$(b - \frac{9}{10})(b + \frac{30}{10})$

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

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

$a \cdot c = 200$
 $-40 \wedge -5$

$2n(4x^2 - 45x + 50)$

$2n(x - \frac{40}{4})(x - \frac{5}{4})$

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

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

$a \cdot c = -216$
 $-9 \wedge 24$

$(r - \frac{9}{4})(r + \frac{24}{4})$

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

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

$a \cdot c = -180$
 $-90 \wedge 2$

$6(9p^2 - 88p - 20)$

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

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