Factoring and Quadratics

Perfect Squares	Difference Squares	Simple Ones	Quadratics	Challenging
100	100	100	100	100
200	200	200	200	200
300	300	300	300	300
400	400	400	400	400

Player A

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Perfect Squares for 100.

Factor $25x^2 - 60x + 36$

a $(5x + 6)^2$

b $(5x - 6)^2$

c $(6x - 5)^2$

d none of them

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Perfect Squares for 200.

Factor $9p^{22} + 6p^{11}z^2 + z^4$

a $(3p^2 - z^{11})^2$

b $(p^{11} - z^2)^2$

c $(3p^2 + z^{11})^2$

d $(3p^{11} + z^2)^2$

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Perfect Squares for 300.

Factor $64p^2 + 144p + 81$

a $(9p - 8)^2$

b $(9p + 8)^2$

c $(8p - 9)^2$

d $(8p + 9)^2$

e none of them

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Perfect Squares for 400.

Factor $16y^{16} - 56y^8 + 49$

a $(4y^4 - 7)^2$

b $(7y^8 - 4)^2$

c $(4y^8 - 7)^2$

d $(4y^8 + 7)^2$

e none of them

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Difference Squares for 100.

Factor $u^2 - 36$

a $(u+6)(u+6)$

b $u(u-6)$

c $(u+6)(u-6)$

d $(u+6)u$

e none of them

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Difference Squares for 200.

Factor $4 - y^4$

a $(2 + y)(2 - y)$

b $(2 + y)(2 + y)$

c $(4 + y^2)(4 - y^2)$

d $(2 + 2y^2)(2 - 2y^2)$

e $(2 + y^2)(2 - y^2)$

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Difference Squares for 300.

Factor $z^{36} - 9$

a $(z^{20} + 3)(z^{16} - 3)$

b $(z^{6} + 1)(z^{30} - 9)$

c $(z^{18} + 3)(z^{18} - 3)$

d $(z^{6} + 3)(z^{6} + 3)$

e none of them

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Difference Squares for 400.

Factor $81w^{20} - 4x^6$

a $(9w^5 + 2x^3)(9w^4 + 2x^3)$

b $(2w^{10} + 9x^3)(2w^{10} + 9x^3)$

c $(9w^{10} - 2x^3)(9w^{10} + 2x^3)$

d $(9w^3 + 2x^{10})(9w^3 + 2x^{10})$

e none of them

Simple Ones for 100.

Factor $x - x^2$

a $x \cdot (x - 1)$

b $(x + 1) \cdot x$

c $(x - 1) \cdot (x + 1)$

d $x(1 - x)$

e $(x - 1)^2$

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Simple Ones for 200.

Factor $ax^2 + bx$

a $(bx + a)x$

b $(bx - a)x$

c $(bx + b)x$

d $x(ax + b)$

e $(ax - a)x$

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Simple Ones for 300.

Factor $2x + 7x - wx$

a $(2 + w)x - 7$

b $(7 - w)x + 2$

c $(2 + 7)x - 7w$

d $x(9 - w)$

e $(14 + x)w$

f none of them

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Simple Ones for 400.

Factor $x^2y - yz^2$

a $x \cdot (y^2 - z)$

b $(x - z^2) \cdot y$

c $(x^2 - y^2) \cdot (z)$

d $y(x^2 + z^2)$

e $(x - z)y(x + z)$

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Quadratics for 100.

Two numbers whose sum is -13 and whose product is -30

a +10, -3

b -10, -3

c -10, +3

d -29, -1

e 15, -15

f none of them

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Quadratics for 200.

Factor $v^2 + v - 30$

a $(v - 15)(v + 2)$

b $(v - 5)(v + 6)$

c $(v + 10)(v - 3)$

d $(v + 5)(v - 6)$

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Quadratics for 300.

Factor $x^2 - 2x - 15$

a $(x-5)(x+5)$

b $(x-3)(x-3)$

c $(x+5)(x+3)$

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

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Quadratics for 400.

Factor $x^2 - 10x + 25$

a $(x-5)(x+5)$

b $(x-3)(x+3)$

c $(x+5)(x+3)$

d $(5-x)^2$

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Challenging for 100.

Write two solutions of $p^2 + p - 20$ in the box below

Example : -3,+2

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Challenging for 200.

Factor $t^2 - 3t - 40$ and write your solution in the box below

Example : $(t-2)(t+11)$

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Challenging for 300.

In the box below, write a quadratic equation that has roots $+2, -7$

Example : $x^2 + 3x - 20$

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Challenging for 400.

In the box below, write a quadratic equation that has roots $-3, +4$

Example : $x^2 - 2x + 10$

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