Review: Factors

List the factors of the numbers below

12	35	48
1, 12	1, 35	1, 48
2, 6		2, 24
3, 4	5, 7	3, 16
		4, 12
		6, 8

Feb 26-8:25 PM

Factor Pairs

List the factors of the numbers below

25	72	160
1, 25	1, 72	1, 160
5	2, 36	2, 80
	3, 24	4, 40
	4, 18	5, 32
	6, 12	8, 20
	8, 9	10, 16

Feb 26-8:25 PM

Factor Riddles

What two numbers have a product of 28 and a sum of 11?

28	Sum
1, 28	29
2, 14	16
4, 7	11

4 and 7

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Factor Riddles

What two numbers have a product of 54 and a sum of 29?

54	Sum
1, 54	55
2, 27	29

2 and 27

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Factor Riddles

What two numbers have a product of -27 and a sum of 6?

-27

-1, 27

sum

26

-3 and 9

-3, 9 6

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Factor Riddles

What two numbers have a product of 40 and a sum of -13?

40

Sum

-1, -40 -41

-2, -20 -22

-4, -10 -14

-5, -8 -13

-5 and -8

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Factor Riddles

What two numbers have a product of -72 and a sum of -1?

-72

1, -72
2, -36
3, -24
4, -18
6, -12
8 -9 -1

8 and -9

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Review: Factoring a polynomial

$12x^3 + 42x^2 - 60x$

$6x(2x^2+7x-10)$

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Factoring a trinomial

SPECIAL CASE:

$$x^2 + bx + c$$

What two numbers have a product of *c* and a sum of *b*?

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Factoring a trinomial

$$x^2 + 7x + 12$$

What two numbers have a product of *c* and a sum of *b*?

12

1, 12

2, 6

3, 4

$(x+3)(x+4)$

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Factoring a trinomial

$x^2 + 7x + 12 = (x + 3)(x + 4)$

Check the answer by FOILing

$x^2 + 4x + 3x + 12$

$x^2 + 7x + 12$

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Factoring a trinomial

$x^2 - 14x + 24$

24

-1, -24

-2, -12

-3, -8

-4, -6

$(x-2)(x-12)$

$t^2 + 2t - 99$

-99

-1, 99

-3, 33

-9, 11

$(t-9)(t+11)$

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Factoring a trinomial

$x^2 - 13x + 12$

12

-1, -12

$(x-1)(x-12)$

$y^2 - 11y - 42$

-42

1, -42

2, -21

3, -14

6, -7

$(y+3)(y-14)$

Feb 26-8:25 PM