

Factor to put standard form into intercept form.

Then, find what the two intercepts would be. This is Solving by Factoring.

Factor the following.

WARMUP

1) $x^2 + 9x + 20$	2) $14b^2 - 31b + 15$	3) $x^2 + 5x - 6$
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Now, let's solve for x. Each equation MUST be set = 0. If it is not set = 0, then you must make it.

Solve by factoring

<p>4) $(6r - 1)(r + 5) = 0$</p> <p>$6r - 1 = 0$ $r + 5 = 0$ $r = \frac{1}{6}$ $r = -5$</p> <p>$r = \frac{1}{6}$</p>	<p>5) $(p + 1)(p + 6) = 0$</p> <p>$p = -1$ $p = -6$</p>	<p>6) $x^2 + 5x - 6 = 0$</p> <p>$(x + 6)(x - 1) = 0$</p> <p>$x = -6$ $x = 1$</p>
<p>7) $2k^2 - 14 = -3k$</p> <p>$2k^2 + 3k - 14 = 0$</p> <p>$(2x + 7)(x - 2) = 0$</p> <p>$2x + 7 = 0$ $x - 2 = 0$ $x = -\frac{7}{2}$ $x = 2$</p>	<p>8) $2n^2 + 11n - 21 = 0$</p> <p>$(2x - 3)(x + 7) = 0$</p> <p>$2x - 3 = 0$ $x + 7 = 0$ $x = \frac{3}{2}$ $x = -7$</p>	<p>9) $x^2 = 11x - 28$</p> <p>$x^2 - 11x + 28 = 0$</p> <p>$(x - 7)(x - 4) = 0$</p> <p>$x = 7$ $x = 4$</p>

These look a little different. We need to find a GCF (greatest common factor).

→ a # or letter in (common)

*Solve = 0

Factor – these are special cases. Some you will have to solve.

$\frac{k^2 - 4k}{k \quad k}$ $k(k-4)$ <p>GCF</p>	$\frac{4x^2 - 16x}{4x \quad 4x}$ $4x(x-4)$	$\frac{10x^2 + 15x}{5x \quad 5x} = 0$ $(5x)(2x+3) = 0$ $\frac{5x}{5} = \frac{0}{5} \quad 2x+3=0$ $x=0 \quad 2x = -3$ $x = -\frac{3}{2}$
$\frac{x^3 - 4x^2}{x^2 \quad x^2}$ $x^2(x-4)$ <p>b=0</p>	$\frac{6x^2 - 36x}{6x \quad 6x} = 0$ $6x(x-6) = 0$ $\frac{6x}{6} = \frac{0}{6} \quad x-6=0$ $x=0 \quad x=6$	$\frac{x^3 + 10x^2}{x^2 \quad x^2}$ $x^2(x+10)$
$\frac{x^2 - 64}{x \quad x \quad -8 \quad 8}$ $(x-8)(x+8)$ <p>*Difference of Squares Perfect \checkmark</p>	$\frac{x^2 - 16}{x \quad x \quad -4 \quad 4}$ $(x-4)(x+4)$	$\frac{x^2 - 81}{(x+9)(x-9)}$
$\frac{4x^2 - 1}{2x \quad 2x \quad i \quad -i}$ $(2x-1)(2x+1)$	$\sqrt{36} \quad \frac{36x^2 - 49}{6x \quad 6x \quad 7 \quad -7}$ $(6x+7)(6x-7)$	$\frac{100x^2 + 1}{100x^2 \oplus 1}$ <p>Difference of squares Cannot factor 10+10=0?</p>
$\frac{3x^2 - 300}{3 \quad 3} = 0$ $3(x^2 - 100) = 0$ $3(x-10)(x+10) = 0$ $\frac{3(x-10)}{3} = \frac{0}{3} \quad x+10=0$ $x-10=0 \quad x+10=0$ $x=10 \quad x=-10$	$\frac{5x^2 - 5}{5 \quad 5} = 0$ $5(x^2 - 1) = 0$ $5(x-1)(x+1) = 0$ $x-1=0 \quad x+1=0$ $x=1 \quad x=-1$	$\frac{16x^2 - 4}{4 \quad 4} (4x-2)(4x+2)$ $4(4x^2 - 1)$ $4(2x-1)(2x+1)$

Finish whatever we don't get to for homework ☺

x=10