

Math 2

- Test tomorrow
 - ↳ multiple choice
 - ↳ bring # 2 Pencil!

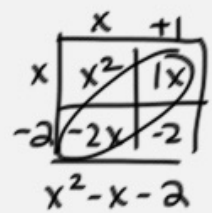
Take out Packet
from yesterday
& get started.

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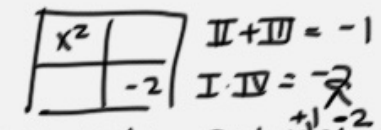


Test:

- multiply binomials ex: $(x+1)(x-2) \rightarrow x^2 - x - 2$
- Zeros/Solutions/roots/x-intercepts by factoring, Completing the square or by Calculator.
↳ break even
- quadratic formula
↳ irrational roots \rightarrow Complex # ($i \rightarrow \sqrt{-1}$)
- Factor
- Vertex form \rightarrow Know vertex
- Solving by square roots
ex: $\sqrt{(x+3)^2} = \sqrt{16}$
 $x+3 = \pm 4$
 $\begin{array}{r} x+3 = \pm 4 \\ -3 \quad -3 \\ \hline x = -3 \pm 4 \end{array}$



$x^2 - x - 2$



$(x-3y)^2 = (x-3y)(x-3y)$

↑ simplify
ex) $\sqrt{-16}$
4i

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5. $3r^2 - 4r - 7$
 $a=3$ $b=-4$ $c=-7$

$$x = \frac{-(-4) \pm \sqrt{(-4)^2 - 4(3)(-7)}}{2(3)}$$

$$\frac{4 \pm \sqrt{16 + 84}}{6}$$

neg answer under $\sqrt{\quad}$

$$\frac{4 \pm \sqrt{100}}{6} = \frac{4 \pm 10}{6}$$

$$x = \frac{4+10}{6} = \frac{14}{6} = \frac{7}{3}$$

$$x = \frac{4-10}{6} = \frac{-6}{6} = -1$$

#12. $8n^2 + 3 = 203$

$$\frac{8n^2}{8} = \frac{200}{8}$$

$$\sqrt{n^2} = \sqrt{25}$$

$$n = \pm 5$$

#16. $x^2 - 4x - 5 = 0$

x	-5	$II+III = -4$
x^2	$-5x$	$I \cdot IV = -5$
$+1$	-5	

$$(x-5)(x+1) = 0$$

$$\begin{array}{l} x-5=0 \\ +5 \quad +5 \\ \hline x=5 \end{array} \quad \begin{array}{l} x+1=0 \\ -1 \quad -1 \\ \hline x=-1 \end{array}$$

18. $2r^2 - 5r - 3$

ar	r	-3	$II+III = -5$
$2r^2$	$-5r$	-3	$I \cdot IV = -6$
$+1$	$+1r$	-3	$-3 \quad -2$

$(r-3)(2r+1)$ $-6 \quad +1$

Calc

$(-5, 0)$

$(3, 0)$

$$\begin{array}{l} r-3=0 \\ +3 \quad +3 \\ \hline r=3 \end{array} \quad \begin{array}{l} 2r+1=0 \\ -1 \quad -1 \\ \hline r = -\frac{1}{2} \end{array}$$



#21. $a^2 + 8a + 30 = 0$

$a^2 + 8a + \boxed{16} = -30 + \boxed{16}$

$(a+4)^2 = -14$

$(a+4)^2 + 14 = 0$

↓ ↓
(opp, same)

Vertex: $(-4, 14)$

y

x

y -min: -1

x -max: 1

$(-4, 14)$

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imaginary #s

ex) $\sqrt{-100}$ $\sqrt{100}$
 ↑ ↓
 i 10i

$\sqrt{20}$ 1, 4, 9, 16, 25, 36, 49, ...
 ↑ ↙ ↘
 i $\sqrt{20}$

$\sqrt{4}$ $\sqrt{5}$ Hi $\sqrt{-11}$
 ↓ ↓ ↓ ↓
 a i√5 i
 ↓ ↓ ↓
 a i√5 i√11

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