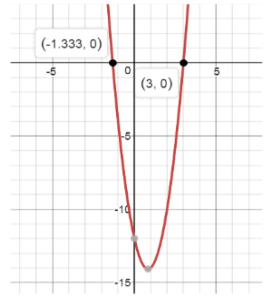
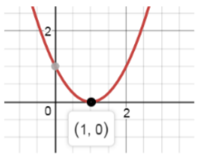
$3x^2 - 5x - 12 = 0$

3. $x = 3 \quad x = -4/3$ ✓

2 solutions
2 x-intercepts
zeros.



1. $x^2 - 2x + 1 = 0$



1
$-1 \quad -1$
-2

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

$x - 1 = 0$

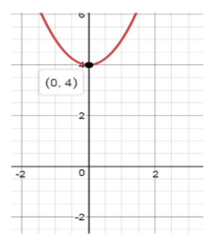
$x = 1 \quad x = 1$

$(x-1)^2$

2 solutions.
1 x-intercept
(2 solutions are the same)

13. $x^2 + 4$?x

$a = 1$
$b = 0$
$c = 4$



No x-int
2 ~~No~~ imag. sol

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

No real sol

$= \pm \frac{4i}{2} = \pm 2i$

2nd method • Solve by taking $\sqrt{}$

$x^2 + 4 = 0$
$-4 \quad -4$

$\sqrt{x^2} = \pm\sqrt{-4}$

$\boxed{x = \pm 2i}$

imaginary # always

come in pairs.

16. $y^2-25=0$

$A=1$

$B=0$

$C=-25$

$$\frac{0\pm\sqrt{0-4(1)(-25)}}{2}$$

$$\frac{0\pm\sqrt{+100}}{2} = \frac{\pm 10}{2} = \pm 5$$

$0\pm\sqrt{\cancel{5}0}$

$y^2-25=0$

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

$y=\pm 5$

-25, 5, -5, 0

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

$x=\pm 5$

14. $$\frac{1\pm\sqrt{1-4(1)(1)}}{2} = \frac{1\pm\sqrt{-3}}{2}$$

$$= \frac{1\pm\sqrt{3}i}{2}$$

8. $x^2+3x=0$

gcf $x(x+3)$

$x=0 \quad x=-3$

0, 3, 0, 3

$a=1$

$b=3$

$c=0$

$x^2 + 3x - 28 = 0$

-28, 7, -4, 3

$(x+7)(x-4)$

$x+7=0$ → $x-4=0$

$-7 \quad -7 \qquad +4 \quad +4$

$x=-7 \qquad x=4$

7. $4x^2-12x=16$

$4x^2-12x-16=0$

$4(x^2-3x-4)=0$

$+1 \mid -4$

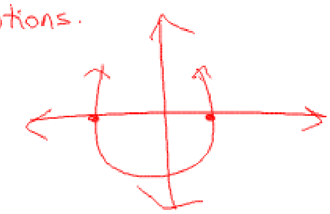
-4, $+1$, -4, -3

$(4)(x+1)(x-4)=0$ Zero Product theorem

$x=-1 \quad x=4$

$4 \neq 0$

2 solutions.



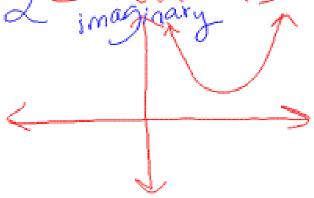
2 real solutions.

2 x-int

0 x-intercepts.

2 Solutions

imaginary



1 Solution

1 x-int

real.