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A Function Always Contains Fun!

~~Cross~~ out the one FALSE statement about all functions.

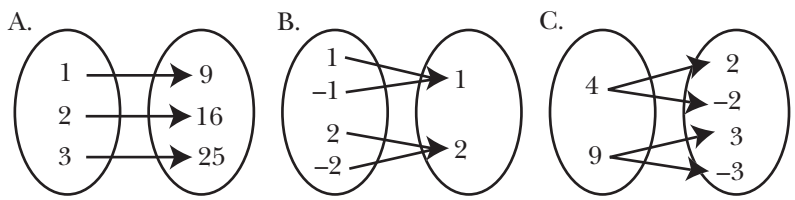
For every input value x, there is only one output value y.

For every output value y, there is only one input value x.

The set of input values is the domain of the function.

The set of output values is the range of the function.

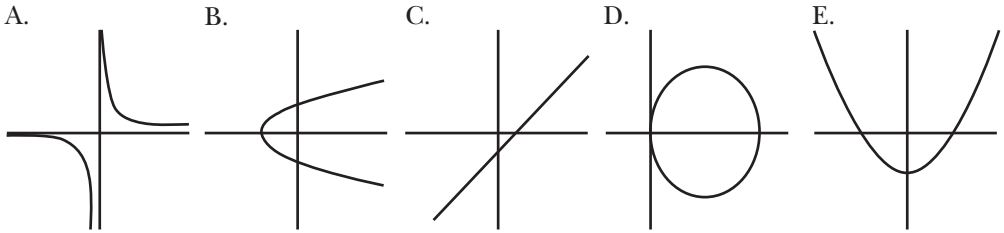
Which mapping diagram does not show a function?



Complete:

1 → 1	1 → 2	0 → 0
2 → 3	2 → 5	1 → 1
3 → 5	3 → 10	2 → 8
4 → 7	4 → 17	3 → 27
5 →	5 →	4 →
9 →	12 →	5 →
x →	x →	x →

Which relations below are not functions?



Which two functions above have a domain of all Real Numbers?

Which function is a linear function?

Which function is a quadratic function?

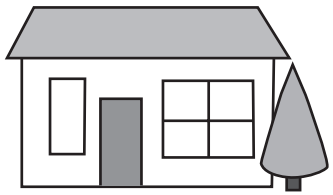
$f(x) = 4x^2 + 6x$, $g(x) = \frac{x}{x+2}$

$f(\ )\frac{1}{2} =$ $\qquad$ $g(2) =$

$\therefore f(g(2)) =$

What is the title of this picture?

Given: {(1, 1), (2, 4), (3, 9)}



{1, 4, 9}

Circle all of the functions.

$y = \sqrt{x}$ $\qquad$ $y = \pm\sqrt{x}$

$y = 2x^2 + 1$ $\qquad$ $x = 2y^2 + 1$

$y = |x|$ $\qquad$ $|y| = x$ $\qquad$ $y = \frac{1}{x}$

$x^2 + y^2 = 25$ $\qquad$ $2x + 2y = 25$

answer to joke:

Home on the range.

In verse functions — functions loved by poets.

Running around in circles!

Complete the square to find the center and radius.

$x^2 + y^2 - 6x + 8y - 11 = 0$

$x^2 - 6x \quad + y^2 + 8y \quad = 11$

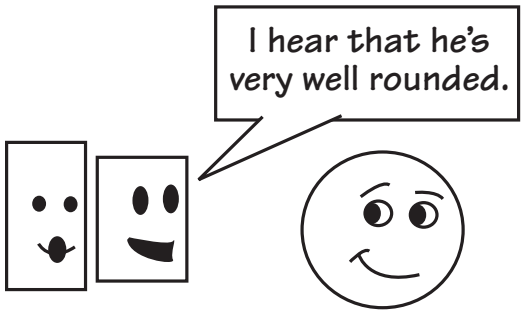
$x^2 - 6x + 9 + y^2 + 8y + 16 = 11 + 9 + 16$

$(x - 3)^2 + (y + 4)^2 = 36$

$C = (3, -4) \quad r = 6$

Complete the square to find the center and radius.

$x^2 + y^2 + 4x + 10y + 20 = 0$

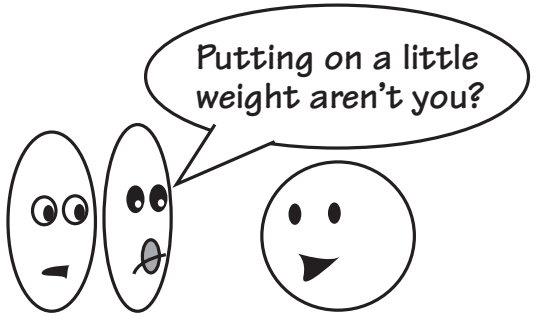


The equation of a circle in standard form

$$x^2 + y^2 + ax + by + c = 0$$

The equation of a circle with the center C = (h, k) and radius = r

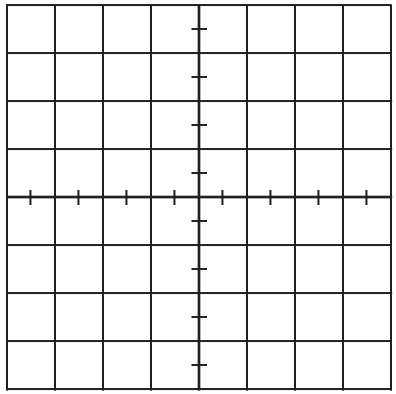
$$(x - h)^2 + (y - k)^2 = r^2$$



Sketch the graphs of

$x^2 + y^2 = 9$

$(x + 2)^2 + (y - 2)^2 = 4$



~~Cross~~ out the <u>one</u> trinomial that is not a perfect square.

$x^2 + 8x + 16$	$x^2 - 2x + 1$
$x^2 + 4x + 4$	$x^2 + 24x + 144$
$x^2 + 20x + 100$	$x^2 - 18x + 81$
$x^2 + 1.6x + 0.64$	$81x^2 - 18x + 1$
$4x^2 - 12x + 9$	$4x^2 + 6x + 9$
$x^2 + x + \frac{1}{4}$	$x^2 + 3x + \frac{9}{4}$
$x^2 - 11x + \frac{121}{4}$	$x^2 - 7x + \frac{49}{4}$

What did $(x - 1)^2 + (y - 2)^2 = 25$ say to $(x - 1)^2 + (y - 2)^2 = 0$?

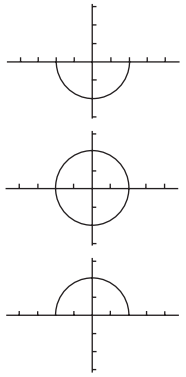
You make a good point!

Which graph is which?

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

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

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



A circle is very well educated — it has 360 degrees.

$y = \sqrt{9 - x^2}$	$y = -\sqrt{9 - x^2}$
$y = \pm\sqrt{9 - x^2}$	$y = \pm\sqrt{36 - x^2}$
$y = \sqrt{36 - x^2}$	$y = -\sqrt{36 - x^2}$
$x^2 + y^2 \leq 25$	$x^2 + y^2 \geq 25$