*HW3 DUE

BE - Geometry 1 | Tuesday 9-7-10

$f(x) = 2x^2 - 3$ | $g(x) = -5x - 1$

⇒ "Function Notation"

Find:

① $f(3)$ ② $g(-4)$

③ $f(2c)$ ④ $g[f(x)]$ or $g \circ f(x)$

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① $f(x) = 2x^2 - 3$

$f(3) = 2(3)^2 - 3$

$\boxed{f(3) = 15}$

② $g(x) = -5x - 1$

$g(-4) = -5(-4) - 1$

$\boxed{g(-4) = 19}$

③ $f(x) = 2x^2 - 3$

$f(2c) = 2(2c)^2 - 3 = 2(4c^2) - 3$

$\boxed{f(2c) = 8c^2 - 3}$

④ $g(x) = -5x - 1$

$g(\quad) = -5(\quad) - 1$

$g(2x^2 - 3) = -5(2x^2 - 3) - 1$

$g(2x^2 - 3) = -10x^2 + 15 - 1 = \boxed{-10x^2 + 14 = g(f(x))}$

Solving Linear (Degree = 1) Equations ⇒ GRE and Inequalities ⇒ GRI

- whatever you do to one side do to the other
- (+GRI ⇒ if you • or ÷ by negative, flip the inequality)

use +, − undos and •, ÷ undos to get variable by itself. Check solutions.

(ex) **GRE**

$$-5x + 3 = 8$$
$$-3 \quad -3$$
$$\frac{-5x}{-5} = \frac{5}{-5}$$
$$\boxed{x = -1}$$

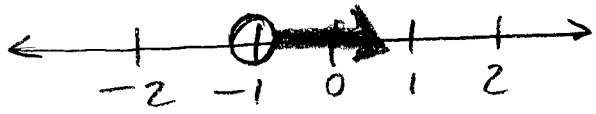
CK $-5(-1)+3 \stackrel{?}{=} 8$

$5 + 3 \stackrel{?}{=} 8$ ✓

ONE SOLUTION — ONLY ONE CHECK

GRI

$$-5x + 3 < 8$$
$$-3 \quad -3$$
$$\frac{-5x}{-5} < \frac{5}{-5}$$
$$\boxed{x > -1}$$



← FALSE — ○ TRUE →

CK FALSE $(-2) > -1$ FALSE ✓

FALSE $(-1) > -1$ FALSE ✓

FALSE $(2) > -1$ TRUE ✓

∞ SOLUTIONS, CAN ONLY "SPOT" CHECK, USE 1 NUMBER IN false, equals, & true region.

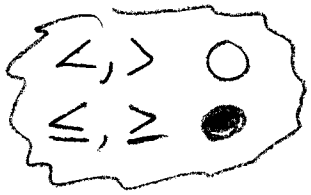
NOTES — get variable on left when done.

$3 = x$

$x = 3$

$3 \geq x$

$x \leq 3$



↑ "POINTS" CORRECTLY

PRACTICE:
- EVALUATING FUNCTIONS
- SOLVING LINEAR EQUATIONS
- SOLVING LINEAR INEQUALITIES

(see ATTACHED WORKSHEET)

Geometry 1 - Mr. C. Name_____

Practice: eval. functions, solve linear eq./inequalities. Date_____ Period____

Evaluate each function.

1) $f(n) = n^3 + 4n$; Find $f(5)$

2) $f(n) = 4n + 1$; Find $f(2)$

3) $f(x) = x^3 + x^2$; Find $f(-4)$

4) $w(x) = x^2 + 5 + x$; Find $w(8)$

5) $k(t) = t^2 + 5t$; Find $k(t + 1)$

6) $h(a) = 2a^2 - 2$; Find $h(a - 4)$

7) $f(n) = 3n - 2$
$g(n) = n^3 - 4n^2$
Find $f(g(n))$

8) $g(n) = 2n - 1$
$h(n) = -3n^2 - 3$
Find $g(h(n))$

Solve each equation. Ckeck your solution.

9) $-6r + 5r = -2$

10) $-x - 4x = 15$

11) $2 - p = p + 8$

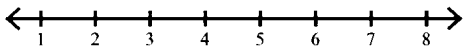
12) $-15 + 3 - 6x - 1 = 7 - 2x$

13) $-8(8 + 8n) = -2 - 2n$

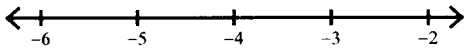
14) $-28 - 8b = 6(3b - 8) - 6$

Solve each inequality and graph its solution.

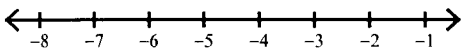
15) $-4v + 5v < 5$



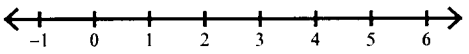
16) $a - 5a \leq 16$



17) $-2 - 2v - 1 \leq 5$



18) $1 - 7x - 4 \geq -10$



Solve each inequality.

19) $6(2k - 8) \geq -18 + 7k$

20) $-8(-4x + 3) + 8x \leq 40 + 8x$

21) $2(2 + 5k) \geq -2k + 4$

22) $-(6 - 2p) - 5p < -1 + 2p$