Honors Algebra 2 Name_____

Summer Assignment

Print this packet and SHOW ALL WORK for the problems below the problem. Try not to use a calculator. You should be able to complete all of the problems in the packet, but if you need a reminder you can find online videos to assist you. This packet is due on the SECOND day of school.

Evaluate each using the values given.

1) $(y)\left(\frac{x}{4}\right) + 5x$; use $x = -4$, and $y = 2$

A) -18 B) -23
C) -22 D) -21

2) $p - (|p| - r)$; use $p = -5$, and $r = 1$

A) -9 B) -3
C) -14 D) -15

Simplify each expression.

3) $(4k^4 - 4 + 4k) - (5k^4 - 6k^3 + 2)$

A) $-k^4 + 6k^3 - 4k - 16$
B) $-k^4 + 6k^3 + 4k - 16$
C) $-k^4 + 6k^3 + 4k - 13$
D) $-k^4 + 6k^3 + 4k - 6$

Solve each equation.

4) $120 = -5 + 5(1 - 6x)$

A) $\{-4\}$
B) { All real numbers. }
C) $\{-2\}$
D) $\{9\}$

5) $-3(7v - 2) = -23 + 8v$

A) $\{1\}$
B) $\{7\}$
C) $\{-7\}$
D) { All real numbers. }

Simplify.

6) $\sqrt{112}$

A) $4\sqrt{7}$
B) $7\sqrt{6}$
C) $3\sqrt{7}$
D) $3\sqrt{6}$

7) $\sqrt{288}$

A) $12\sqrt{2}$
B) $10\sqrt{2}$
C) 6
D) $3\sqrt{7}$

Solve each equation.

8) $4 = \frac{m - 2}{4}$

A) $\{-16\}$
B) $\{18\}$
C) $\{-13\}$
D) $\{-11\}$

9) $-10 + \frac{2}{5}x = -\frac{52}{5}$

A) $\left\{\frac{14}{13}\right\}$
B) $\left\{7\frac{1}{4}\right\}$
C) $\left\{\frac{2}{7}\right\}$
D) $\{-1\}$

Solve each inequality.

10) $-4 > \frac{x}{4} - 5$

A) $x > -7$ B) $x > 4$
C) $x < 4$ D) $x < -7$

11) $-3x - 15 > -6(1 + x)$

A) $x > 0$ B) $x > 3$
C) $x > -6$ D) $x > -17$

Solve each compound inequality.

12) $a + 9 \geq 16$ or $-2a \geq -4$

A) $a < -10$ or $a > 0$
B) $a \geq 7$ or $a \leq 2$
C) $a \leq -9$
D) $a < -10$

Solve each equation.

13) $\left|-10 + 9k\right| = 55$

A) $\{7, -6\}$ B) $\{7, -8\}$
C) $\left\{-8, \frac{39}{4}\right\}$ D) $\left\{\frac{65}{9}, -5\right\}$

Solve each inequality.

14) $-4 + 9\left|k\right| \geq 41$

A) $k > 9$ or $k < -9$
B) $k \geq 5$ or $k \leq -5$
C) $-9 < k < 9$
D) $k > 7$ or $k < -7$

15) $\left|2 - 8x\right| < 62$

A) $-\frac{15}{2} < x < 8$
B) $x < -\frac{15}{2}$ or $x > 8$
C) $-3 \leq x \leq 0$
D) $x \leq -3$ or $x \geq 0$

Evaluate each function for the given value.

16) $f(x) = -2\left|x - 2\right| + 1$; Find $f(-3)$

A) -5 B) -9
C) 0 D) 1

Find the slope of the line through each pair of points.

17) $(-14, -13), (-17, -4)$

A) 3 B) -3
C) $-\frac{1}{3}$ D) $\frac{1}{3}$

Find the slope of the line.

18) $4x + 5y = 15$

A) $\frac{5}{4}$ B) $-\frac{4}{5}$

C) $\frac{4}{5}$ D) $-\frac{5}{4}$

Write the slope-intercept form of the equation of the line.

19) $4x - 3y = -15$

A) $y = \frac{4}{3}x + 5$

B) $y = 5x + \frac{4}{3}$

C) $y = -\frac{2}{3}x + \frac{4}{3}$

D) $y = \frac{4}{3}x - \frac{2}{3}$

Write the slope-intercept form of the equation of the line through the given point with the given slope.

20) through: $(4, 1)$, slope $= \frac{1}{2}$

A) $y = \frac{1}{2}x - 1$ B) $y = 2x - 1$

C) $y = -2x - 1$ D) $y = -x - 2$

Write the slope-intercept form of the equation of the line through the given points.

21) through: $(2, -1)$ and $(5, 5)$

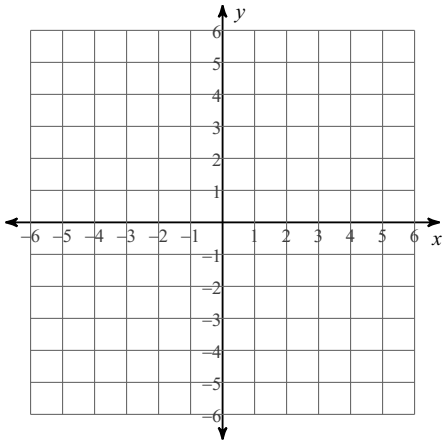
Write the slope-intercept form of the equation of the line described.

22) through: $(-2, 1)$, parallel to $y = -\frac{5}{3}x + 2$

23) through: $(4, 4)$, perpendicular to $y = -\frac{4}{5}x$

Sketch the graph of each line.

24) $5x - 4y = 8$



Find each product.

25) $(7n - 6)(6n - 5)$

26) $6k(3k^2 + k + 3)$

27) $(8b - 5)(8b + 5)$

Factor each completely.

28) $r^2 - 6r - 40$

29) $a^2 + 11a + 18$

Solve each proportion.

30) $\frac{k+7}{k+2} = \frac{4}{8}$

Find each sum. You may not use a calculator.

31) $\left(-1\frac{1}{6}\right) + \left(-3\frac{5}{7}\right)$

Find each product. You may not use a calculator.

32) $\left(-3\frac{1}{5}\right)\left(-\frac{2}{7}\right)$

Find each quotient. You may not use a calculator.

33) $1\frac{5}{7} \div 1\frac{2}{3}$

Solve each system by elimination.

34) $-5x - 2y = -26$
$-6x - 2y = -28$

35) $-5x + 6y = 8$
$10x + 2y = 26$

36) Jenny and Julia are selling cookie dough for a school fundraiser. Customers can buy packages of white chocolate chip cookie dough and packages of oatmeal cookie dough. Jenny sold 14 packages of white chocolate chip cookie dough and 1 package of oatmeal cookie dough for a total of $182. Julia sold 2 packages of white chocolate chip cookie dough and 8 packages of oatmeal cookie dough for a total of $136. What is the cost each of one package of white chocolate chip cookie dough and one package of oatmeal cookie dough?

37) Rewrite the equation by solving for F.

$C = \frac{5}{9}(F - 32)$

38) The volume of a sphere is given by $V = \frac{4}{3}\pi r^3$. Find the radius if the volume is 175 ft^3.

39) Rewrite the equation $A = \pi r^2$ by solving for r. Leave the equation in terms of Pi.

40) You have 480 ft of fencing to enclose a rectangular garden. You want the length of the garden to be 30 ft greater than the width. Find the length and width of the garden.