**HW #205**

**Practice Review for Test 201**

*There are 30 points possible. To get full credit for this assignment, you must hand in your graded assignment before the test on test day. You must show that you graded the assignment from the website by indicating the original number correct over 30. To receive full credit you must show that you corrected the problems that were originally missed. Students who do not show sufficient work to prove that answers were not merely copied from the web site will receive a ZERO for this assignment.*

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| For #1 - 3, graph the lines described on the coordinate place provided and answer any other question asked. | | | |
| 1) A line described by .  Do not solve rearrange, you should use the information you know from the equation. | 2) Graph the line described by having a slope of zero and a  y-intercept of 2; then write the equation in STANDARD FORM.  Equation:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | 3) Find the zero of the function:  , and graph. |
| 4) Write an equation in **point-slope form** for the line that passes through the points (-5, 6) and (5, 12). There are two possible equations. | | | |
| 5) Use intercepts to graph | | 6) Write the equation of this graphed line in **slope-intercept form** (NOTE: the y-intercept is NOT an integer!) | |
| For #7 - 8, assume that each situation can be described by a linear function.  You may use a calculator to perform any necessary arithmetic, but you must still show ALL work. | | | |
| 7) At the West Texas Balloon Festival, a hot-air balloon is first sighted at an altitude of 1280 feet and appears to be descending at a steady rate of 40 feet per minute.   1. Write a function **in function notation** that expresses the altitude of the balloon from the ground as a function of the number of minutes since it was first sighted. 2. Find the altitude of the balloon from the ground a half hour from when it was first sighted. 3. A second balloon is descending at 15 feet per minute, and 40 minutes after it begins its descent, its altitude is 450 feet. Write a function **in function notation** that describes its altitude as a function of the number of minutes it has been descending. 4. How long did it take for this second balloon to land? | | | |
| 8) The cost of internet access at a Café Epic is a function of time. The cost for 8 minutes is $4.00 and the cost for 48 minutes is $10.00.   1. Write a function **in function notation** that expresses the cost of internet access at this café as a function of number of minutes. 2. How long was a person accessing the internet if their cost was $15.85. 3. What was the cost for someone that was online 3 hours and 20 minutes? | | | |
| 9) The number of miles driven varies directly with the number of gallons of gas used. Erin drove 297 miles on 11 gallons of gasoline. a) Write an equation for the relationship between number of miles driven and the amount of gasoline used and, b) calculate how far she would be able to drive on 15 gallons of gasoline. | | | |
| For #10, state the slope of a line that is a) parallel to and b) perpendicular to the line described. | | | |
| 10)  parallel slope: \_\_\_\_\_\_ perpendicular slope: \_\_\_\_\_\_\_ | | | |
| For #11 - 12, write the equation of each line described in **Standard Form** | | | |
| 11) A line parallel to 5*x* 8 *y* 2 and having a  *y*-intercept of 2. | | 12) Perpendicular to the graphed line below containing 6,1 | |
| For #13 - 14, write the equation of each line described in **slope-intercept form** | | | |
| 13) Parallel to 6*x* 5 *y* 2 containing the point 10,4. | | 14) Perpendicular to 8 4 *y* containing the point 5,7. | |
| 15) If the table below represents a direct variation, find the values of *a* and *b.* Then write the equation of this direct variation in the form *y* *ax*   |  |  |  |  | | --- | --- | --- | --- | | *x* | 2 | *a* | 6 | | *y* | 10 | 20 | *b* | | | | |
| 16) Find the equation of the line passing through the points (7, 8) and (-5, 6). Write your answer in **slope-intercept form.**  17) Rearrange your answer in #16 to **Standard Form**: | | | |
| 18) Identify the slope and the *y*-intercept of the line | | | |