Math 080
Graphs and Functions Worksheet

Determine if the ordered pair is a solution to the given equation:

1. $4x^2 + |3y| = 7$; $(\frac{1}{2}, -2)$, $(2, 3)$

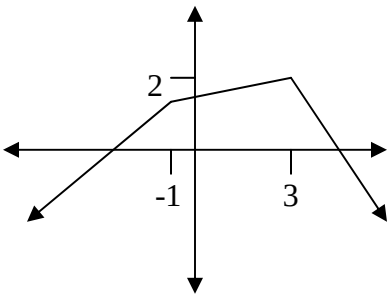
Graph the equation:

2. $x^3 + 3$

Determine if the relation is a function and give the domain and range:

3. {(3, 6), (1, 5), (-3, 7), (2, 7), (1, 4)}

4.



Solve:

5. The stopping distance, d, in meters for a car traveling v kilometers per hour is given by the function $d(v) = 0.19v + 0.015v^2$. Find the stopping distance for 50km/hr and 25km/hr.

Write the equation in standard form, calculate the x and y intercepts and graph the equation:

6. $y = -\frac{1}{4}x + 7$

7. $y = 6.2$

8. $x = 0$

Find the slope and graph the line:

9. Passing through the points (8, -3) and (3, -1).

10. $5x + 3y = 15$

Solve:

11. The number of workers per social security beneficiary has been declining approximately linearly since 1970. In 1970 there were 3.6 workers per beneficiary. In 2050 it is projected there will be 2.1 workers per beneficiary. Let W be the workers per social security beneficiary and t be the number of years since 1970.

a. Find a function W(t) that fits the data.

b. Estimate the number of workers per beneficiary in 2020.

Find the equation, graph and write the equation in standard form:

12. Slope = $-{}^{2}/_{3}$, through (1, 1).

13. Through the points (2, 4) and (4, 7).

14. Through the point (1, -2) and parallel to $2y - 3x = 4$.

15. Through the point (1, 0) and perpendicular to $y = -3$.

16. Through the point (3, 5) and perpendicular to the line through the points (3, -2) and (1, 4).