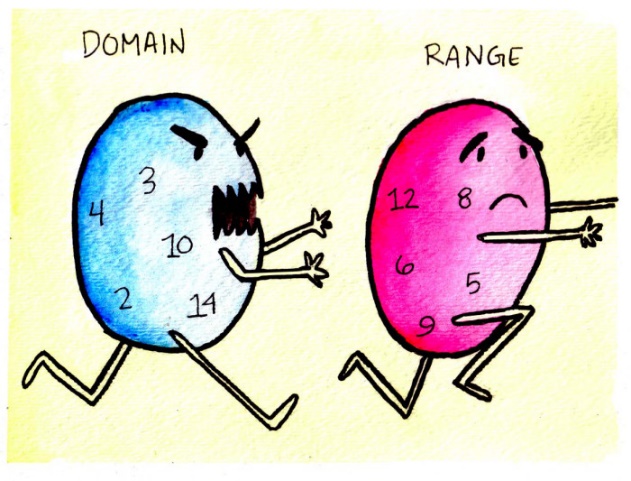
**MATH 100:  class discussion 16 October**

**Parallel, perpendicular lines**

**Graphing inequalities**

**Relations vs functions**

**Domain & range**



1. What is meant by **point-slope form** of a straight line? What is meant by **slope-intercept** form of a straight line?
2. Find an equation of a line that is *parallel* to 2x + 4y = 1 and passes through

(-3, -5).

1. Are the following lines *perpendicular*? Why?

3x – 5y = 1 and 10x + 6y = 7

1. Find an equation of a line that passes through (1, ½) and is perpendicular to the line y – 3x = 4.
2. Write the following in *slope-intercept* form:

2y + x = -(4 – y – x) + 9(x – 3y)

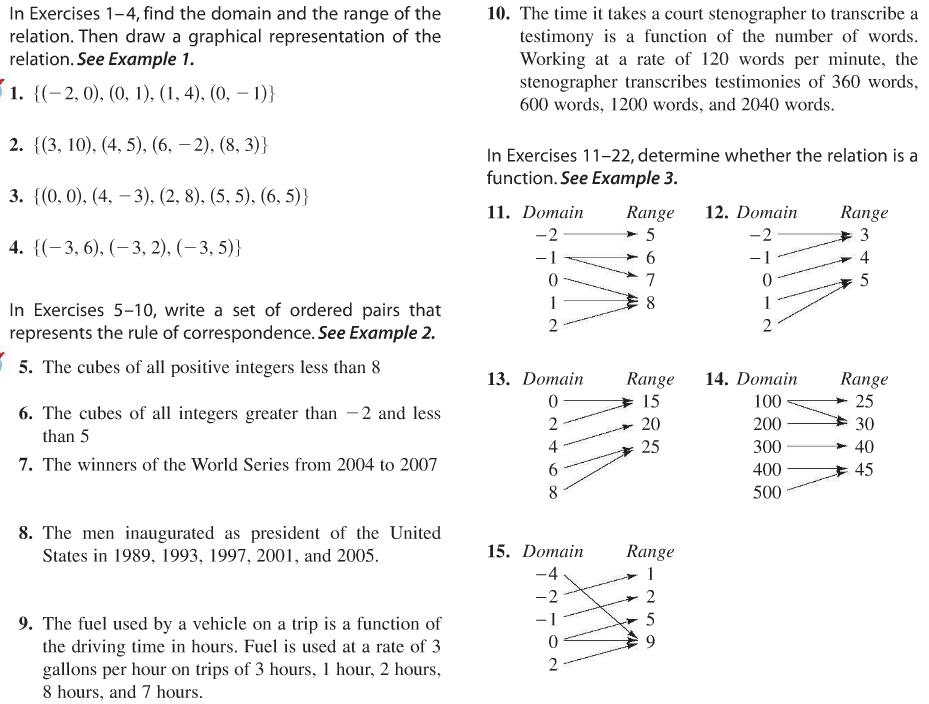
1. Which of the following lines (if any) are parallel?
2. y = 5x – 3
3. y – x = 3(x – y) + 1
4. 3 = 2y – (x + y)
5. 1 – 5(x – 1) +7(x + 5) = 8 + 2(y + x) – y + x
6. For each problem in question (5), find the x and y-intercepts of the line.
7. Write the equation of a line that has x-intercept of 7 and y-intercept of -9.
8. Graph each of the following linear inequalities:
9. y > x
10. y < x – 4
11. y ≥ 2x + 5
12. x + y < 7
13. 2x + y ≥ -1
14. Find *t* such that the point P = (t, 5) lies on the line of slope m = -3 that passes through the point (7, 11).
15. Find the midpoint of the line segment joining P = (1, 4) and Q = (-3, -9).
16. If the bat population of BetaVille is currently 2300 and declining by 73 bats each year, when will the bats become extinct?
17. Find the *distance* between the following pairs of points. Also plot the points.
18. P = (2017, 77), Q = (2017, 97)
19. P = (5, 44), Q = (9, 44)
20. P = (1, 1), Q = (4, 5)
21. P = (- 3, 4), Q = (4, 5)
22. P = (99, -104), Q = (100, -101)
23. P = (3, 5), Q = (3, 5)
24. Which of the following triples of points are *collinear*? Plot each triple.
25. P = (2, 6), Q = (5, 2), R = (8, -2)
26. P = (2, 3), Q = (2, 6), R = (6, 3)
27. P = (8, 3), Q = (5, 2), R = (2, 1)
28. P = (2, 4), Q = (1, 1), R = (0, -2)
29. Find the *perimeter* of the triangle with vértices

A = (-1, -1), B = (0, 5), C = (4, 4).

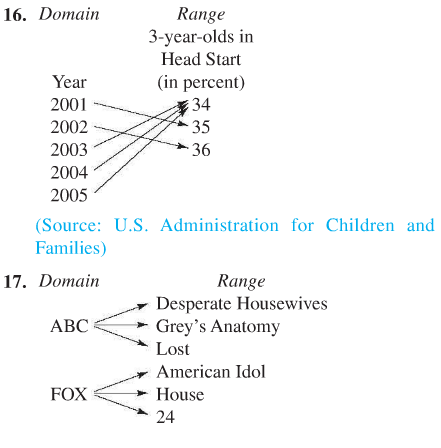
1. Using a table, graph each of the following:
2. y = |x|
3. y = |x – 1|
4. y = |x| + 1
5. y = |2x – 1|
6. Find the ***domain*** of each of the following functions:
7. y = 7x + 19


11. y = 5|2x – 1|
13. Find the ***range*** of the functions (a), (c), and (i) above

**Additional exercises from text:**



1. For each of the following, determine if the relation is a function:





[*Life and death are one thread, the same line viewed from different sides.*](http://www.brainyquote.com/quotes/quotes/l/laotzu163064.html)

**-** [**Lao Tzu**](http://www.brainyquote.com/quotes/authors/l/lao_tzu.html) 