

MS 100 Spring 2020 **Sample Test 2** (Sec 1.6,1.7, 2.1)

01. (04 pts) Solve  $2x^3 = 16x^2$ .  $x =$  \_\_\_\_\_

02. (04 pts) Solve  $\sqrt{5x} - 18 = 2$ .  $x =$  \_\_\_\_\_

03. (04 pts) Consider the inequality  $2x + 7 < 23$ .

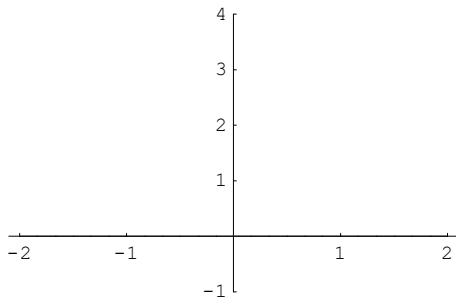
- Solve the inequality.
- Express the answer in *interval notation*.
- Graph the solution on a number line.
- Is the solution set BOUNDED or UNBOUNDED?

←-----0-----→

04. (04 pts) Consider the inequality  $-6 < 5x - 7 \leq 10$ .

- Solve the inequality.
- Express the answer in *interval notation*.
- Graph the solution on a number line.
- Is the solution set BOUNDED or UNBOUNDED?

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05. (04 pts) Graph the equation  $y = -3x + 1$ . Clearly mark the  $x$ -intercept and  $y$ -intercept.

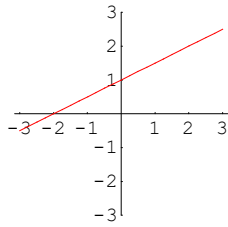
06. (04 pts) Calculate the slope of the line graphed below:

a)  $-\frac{1}{2}$

b) -2

c)  $\frac{1}{2}$

d) -4



07. (4 pts) A line passes thru the point  $(-2,1)$  and  $(3,16)$ . Find the **equation** for the slope-intercept form of the line.
08. (4 pts) A line passes thru the point  $(2,-1)$  and has slope 4. Find the **equation** for the slope-intercept form of the line.
09. (6 pts) You friend burns CDs for a living. He charges \$1.50 for a blank CD and 10 cents for every song he puts on the CD. Let  $F$  be the fee he charges and  $n$  the number of songs.
- Write the linear relationship between  $F$  and  $n$ .
  - How much does he charge for a CD with 12 songs?
  - He charges a customer \$4.50. How many songs were on the CD?
10. (4 pts) What is the slope of the line  $4y + 3x = 2$  ? Slope = \_\_\_\_\_
11. (4 pts) The formula for compound interest is  $A = P(1 + \frac{r}{n})^{nt}$  where  $P$  is the initial deposit,  $r$  is the interest rate,  $n$  is the number of compoundings per year,  $t$  is the number of years and  $A$  is the final amount. Suppose \$600 is invested with quarterly compounding. After 12 years the account is worth \$858.85. What was the interest rate  $r$ ?