Homework 1/2/2014

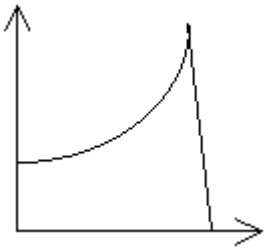
Multiple Choice
Identify the letter of the choice that best completes the statement or answers the question.

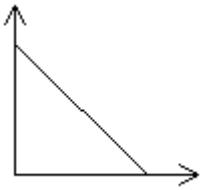
____ 1. Find the domain and range of the relation.

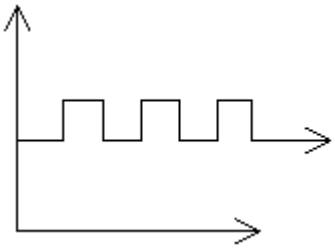
Age of Person	**Books Read**
64	48
37	43
30	20
30	29

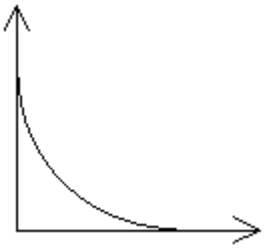
a. domain: {30, 30, 37}
range: {29, 20, 48}
b. domain: {30, 30, 37}
range: {29, 20, 43, 48}
c. domain: {30, 37, 64}
range: {29, 20, 48}
d. domain: {30, 37, 64}
range: {29, 20, 43, 48}

____ 2. Which graph is the most appropriate to describe a quantity decreasing at a steady rate?

a.


c.


b.


d.


Use a graphing calculator to find the equation of the line of best fit for the data. Find the value of the correlation coefficient *r.*

____ 3.

Average Speed (mi/h)	Time (hours)
8.5	2.5
7.5	3.75
6.5	4.5

6.0	5.0
5.5	5.5
5.0	6.25
4.0	6.75
3.5	8.75

a. $y = 11.83x - 1.11$; $r = -0.9760964904$
b. $y = -1.11x + 11.83$; $r = -0.9760964904$
c. $y = 11.83x - 1.11$; $r = 0.9527643586$
d. $y = -1.11x + 11.83$; $r = 0.9527643586$

Solve the equation.

____ 4. $v - \frac{4}{5} = \frac{2}{3}$

a. $1\frac{7}{15}$ b. $1\frac{1}{9}$ c. $\frac{2}{15}$ d. $\frac{10}{13}$

____ 5. $9d - 3d + 6d - 5 = 4d$

a. -2 b. $\frac{5}{4}$ c. $\frac{5}{8}$ d. $\frac{5}{16}$

____ 6. $\frac{5}{8}x - 8 = -2$

a. $11\frac{1}{5}$ b. $3\frac{3}{4}$ c. $9\frac{3}{5}$ d. $-9\frac{3}{5}$

____ 7. $3(y + 3) = 18$

a. 9 b. 3 c. 5 d. –9

____ 8. $45 - 4 + 7w = 62$

a. 2 b. –3 c. 3 d. 6

Tell whether the lines for each pair of equations are *parallel*, *perpendicular*, or *neither*.

____ 9. $7x - 4y = 4$
$x - 4y = 3$

a. perpendicular b. parallel c. neither

Simplify the expression.

____ 10. $\frac{7^4}{7^3}$

a. 7 b. 7^7 c. 7^{12} d. $\frac{1}{7^7}$

____ 11. $(p^2)^8$

a. $2p^{16}$ b. p^{16} c. p^{256} d. p^{10}

____ 12. $(7n^9)^3$

a. $343n^{12}$ b. $7n^{27}$ c. $7n^{729}$ d. $343n^{27}$

____ 13. $\frac{t^{18}}{t^9}$

a. t^{162} b. $\frac{1}{t^9}$ c. t^{27} d. t^9

Which number is a solution of the inequality?

____ 14. $3x - 12 \geq 14$

a. 26 b. 10 c. 3 d. 1

3 9 4

____ 15. The table shows the amount of time a student spends practicing each week and her typing speed.

Practice (hours)	1	2	3	4	5
Typing Speed (words per minute)	21	26	35	37	40

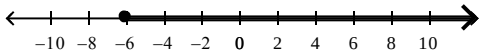
a. Use a graphing calculator to find the equation of the line of best fit.
b. Use your equation to predict the student's typing speed if she spends 8 hours practicing each week.

a. $y = 5.1x + 17$; about 47 words per minute
b. $y = 17.1x + 4.9$; about 142 words per minute
c. $y = 4.9x + 17.1$; about 56 words per minute
d. $y = 4.6x + 16$; about 53 words per minute

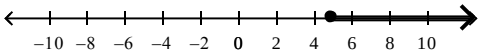
Solve the inequality. Then graph your solution.

____ 16. $-\frac{x}{6} \leq -1$

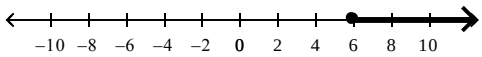
a. $x \geq -6$



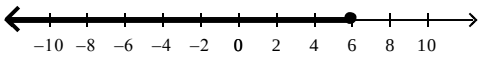
c. $x \leq 5$



b. $x \geq 6$



d. $x \leq 6$



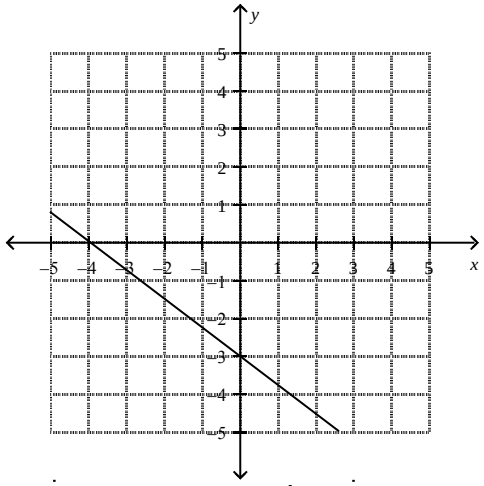
Solve the inequality.

____ 17. $-5x - 7 < 28$

a. $x > -7$ b. $x < -7$ c. $x > \frac{21}{5}$ d. $x < -\frac{21}{5}$

Find the slope of the line.

____ 18.



a. $\frac{4}{3}$ b. $-\frac{4}{3}$ c. $\frac{3}{4}$ d. $-\frac{3}{4}$

Find the slope of the line that passes through the pair of points.

____ 19. (5, 7), (6, –2)

a. $-\frac{1}{9}$ b. –9 c. 9 d. $\frac{1}{9}$

____ 20. Evaluate $f(x) = -3x - 7$ for $x = -1$.

a. 4 b. –4 c. –10 d. 3

Homework 1/2/2014
Answer Section

MULTIPLE CHOICE

1. ANS: D DIF: L1 REF: 5-2 Relations and Functions
   OBJ: 5-2.1 Identifying Relations and Functions STO: NC 4.01, NC 4.01a
   TOP: 5-2 Example 1 KEY: domain,range
   MSC: NAEP A1g, CAT5.LV19.53, CAT5.LV19.54, IT.LV15.DI, IT.LV15.PS, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.14, TV.LV19.16, TV.LVALG.56
2. ANS: C DIF: L1 REF: 5-1 Relating Graphs to Events
   OBJ: 5-1.1 Interpreting¸ Sketching¸ and Analyzing Graphs
   TOP: 5-1 Example 3 KEY: graphing,analyze a graph
   MSC: NAEP A2a, NAEP A2c, CAT5.LV19.54, IT.LV15.DI, TV.LV19.14, TV.LV19.15, TV.LV19.17, TV.LVALG.56
3. ANS: B DIF: L1 REF: 6-6 Scatter Plots and Equations of Lines
   OBJ: 6-6.2 Writing an Equation for a Line of Best Fit STO: NC 3.03, NC 3.03b
   TOP: 6-6 Example 2
   KEY: scatter plot,graphing,data analysis,line of best fit,correlation coefficient
   MSC: NAEP D2e, NAEP D2g, NAEP A2c, NAEP A2f, CAT5.LV19.53, CAT5.LV19.54, IT.LV15.CP, IT.LV15.DI, S9.TSK1.NS, S9.TSK1.DSP, S10.TSK1.NS, S10.TSK1.DSP, TV.LV19.11, TV.LV19.15, TV.LV19.16, TV.LV19.18, TV.LVALG.56
4. ANS: A DIF: L1 REF: 2-1 Solving One-Step Equations
   OBJ: 2-1.1 Solving Equations Using Addition and Subtraction
   STO: NC 1.02 TOP: 2-1 Example 1
   KEY: Addition and Subtraction Properties of Equality, equivalent equations, inverse operations, one-step equation, solving equations, fractions
   MSC: NAEP N5e, NAEP A4a, NAEP A4c, CAT5.LV19.50, IT.LV15.CP, IT.LV15.PS, IT.LV15.AM, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.16, TV.LV19.49, TV.LV19.52, TV.LVALG.54
5. ANS: C DIF: L1
   REF: 2-4 Equations With Variables on Both Sides
   OBJ: 2-4.1 Solving Equations With Variables on Both Sides
   STO: NC 1.02 TOP: 2-4 Example 1
   KEY: Addition and Subtraction Properties of Equality, Multiplication and Division Properties of Equality, solving equations, multi-step equation, equations with variables on both sides
   MSC: NAEP A2e, NAEP A4a, NAEP A4c, CAT5.LV19.50, IT.LV15.CP, IT.LV15.PS, IT.LV15.AM, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.16, TV.LV19.17, TV.LV19.52, TV.LVALG.54
6. ANS: C DIF: L1 REF: 2-2 Solving Two-Step Equations
   OBJ: 2-2.1 Solving Two-Step Equations STO: NC 1.02
   TOP: 2-2 Example 1
   KEY: Addition and Subtraction Properties of Equality, Multiplication and Division Properties of Equality, solving equations, two-step equation, fractions
   MSC: NAEP N5e, NAEP A2e, NAEP A4a, NAEP A4c, CAT5.LV19.50, IT.LV15.CP,

IT.LV15.PS, IT.LV15.AM, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.16, TV.LV19.17, TV.LV19.18, TV.LV19.52, TV.LVALG.54

7. ANS: B DIF: L1 REF: 2-3 Solving Multi-Step Equations
OBJ: 2-3.2 Using the Distributive Property to Solve Equations
STO: NC 1.02 TOP: 2-3 Example 4
KEY: Addition and Subtraction Properties of Equality, Multiplication and Division Properties of Equality, solving equations, multi-step equation, Distributive Property
MSC: NAEP A3b, NAEP A3c, NAEP A4a, NAEP A4c, CAT5.LV19.50, IT.LV15.CP, IT.LV15.PS, IT.LV15.AM, S9.TSK1.PRA, S9.TSK1.GM, S10.TSK1.PRA, S10.TSK1.GM, TV.LV19.16, TV.LV19.17, TV.LV19.47, TV.LV19.48, TV.LV19.52, TV.LVALG.54

8. ANS: C DIF: L1 REF: 2-3 Solving Multi-Step Equations
OBJ: 2-3.1 Using the Distributive Property to Combine Like Terms
STO: NC 1.02 TOP: 2-3 Example 1
KEY: Addition and Subtraction Properties of Equality, Multiplication and Division Properties of Equality, solving equations, multi-step equation
MSC: NAEP A3b, NAEP A3c, NAEP A4a, NAEP A4c, CAT5.LV19.50, IT.LV15.CP, IT.LV15.PS, IT.LV15.AM, S9.TSK1.PRA, S9.TSK1.GM, S10.TSK1.PRA, S10.TSK1.GM, TV.LV19.16, TV.LV19.17, TV.LV19.47, TV.LV19.48, TV.LV19.52, TV.LVALG.54

9. ANS: C DIF: L2 REF: 6-5 Parallel and Perpendicular Lines
OBJ: 6-5.2 Perpendicular Lines STO: NC 2.02 TOP: 6-5 Example 3
KEY: perpendicular lines,parallel lines
MSC: NAEP G3g, NAEP A2e, CAT5.LV19.52, CAT5.LV19.54, IT.LV15.CP, IT.LV15.DI, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.14, TV.LV19.16, TV.LV19.18, TV.LVALG.54, TV.LVALG.56

10. ANS: A DIF: L1 REF: 8-5 Division Properties of Exponents
OBJ: 8-5.1 Dividing Powers With the Same Base STO: NC 1.01, NC 1.01a
TOP: 8-5 Example 1
KEY: dividing powers with the same base,exponential expression
MSC: CAT5.LV19.50, CAT5.LV19.51, CAT5.LV19.52, IT.LV15.CP, IT.LV15.DP, S9.TSK1.NS, S10.TSK1.NS, TV.LV19.10, TV.LV19.11, TV.LV19.52, TV.LVALG.53

11. ANS: B DIF: L1
REF: 8-4 More Multiplication Properties of Exponents
OBJ: 8-4.1 Raising a Power to a Power STO: NC 1.01, NC 1.01a
TOP: 8-4 Example 1
KEY: raising a power to a power,exponential expression,simplifying an exponential expression
MSC: CAT5.LV19.50, CAT5.LV19.51, CAT5.LV19.52, IT.LV15.CP, IT.LV15.DP, S9.TSK1.NS, S10.TSK1.NS, TV.LV19.10, TV.LV19.11, TV.LV19.52, TV.LVALG.53

12. ANS: D DIF: L1
REF: 8-4 More Multiplication Properties of Exponents
OBJ: 8-4.2 Raising a Product to a Power STO: NC 1.01, NC 1.01a
TOP: 8-4 Example 3
KEY: raising a product to a power,exponential expression,simplifying an exponential expression
MSC: CAT5.LV19.50, CAT5.LV19.51, CAT5.LV19.52, IT.LV15.CP, IT.LV15.DP, S9.TSK1.NS, S10.TSK1.NS, TV.LV19.10, TV.LV19.11, TV.LV19.52, TV.LVALG.53

13. ANS: D DIF: L1 REF: 8-5 Division Properties of Exponents
OBJ: 8-5.1 Dividing Powers With the Same Base STO: NC 1.01, NC 1.01a
TOP: 8-5 Example 1
KEY: dividing powers with the same base,exponential expression
MSC: CAT5.LV19.50, CAT5.LV19.51, CAT5.LV19.52, IT.LV15.CP, IT.LV15.DP, S9.TSK1.NS, S10.TSK1.NS, TV.LV19.10, TV.LV19.11, TV.LV19.52, TV.LVALG.53

14. ANS: A DIF: L2 REF: 3-1 Inequalities and Their Graphs
OBJ: 3-1.1 Identifying Solutions of Inequalities STO: NC 4.01, NC 4.01a
TOP: 3-1 Example 2 KEY: solution of the inequality,inequality
MSC: NAEP A3a, CAT5.LV19.51, CAT5.LV19.51, CAT5.LV19.52, IT.LV15.DI, TV.LV19.10, TV.LV19.11, TV.LVALG.54

15. ANS: C DIF: L3 REF: 6-6 Scatter Plots and Equations of Lines
OBJ: 6-6.2 Writing an Equation for a Line of Best Fit STO: NC 3.03, NC 3.03b
TOP: 6-6 Example 2
KEY: line of best fit,problem solving,word problem,multi-part question,data analysis
MSC: NAEP D2e, NAEP D2g, NAEP A2c, NAEP A2f, CAT5.LV19.53, CAT5.LV19.54, IT.LV15.CP, IT.LV15.DI, S9.TSK1.NS, S9.TSK1.DSP, S10.TSK1.NS, S10.TSK1.DSP, TV.LV19.11, TV.LV19.15, TV.LV19.16, TV.LV19.18, TV.LVALG.56

16. ANS: B DIF: L1
REF: 3-3 Solving Inequalities Using Multiplication and Division
OBJ: 3-3.1 Using Multiplication to Solve Inequalities STO: NC 4.01, NC 4.01a
TOP: 3-3 Example 2
KEY: Multiplication Property of Inequality for $c < 0$,solving inequalities
MSC: NAEP A4a, NAEP A4c, CAT5.LV19.50, IT.LV15.CP, IT.LV15.PS, IT.LV15.AM, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.10, TV.LV19.16, TV.LV19.52, TV.LVALG.54

17. ANS: A DIF: L1 REF: 3-4 Solving Multi-Step Inequalities
OBJ: 3-4.1 Solving Inequalities With Variables on One Side
STO: NC 4.01, NC 4.01a TOP: 3-4 Example 1
KEY: modeling with inequalities,multi-step inequality with variables on one side,solving inequalities
MSC: NAEP A3b, NAEP A3c, NAEP A4a, CAT5.LV19.50, IT.LV15.CP, IT.LV15.PS, IT.LV15.AM, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.16, TV.LV19.17, TV.LV19.52, TV.LVALG.54

18. ANS: D DIF: L1 REF: 6-1 Rate of Change and Slope
OBJ: 6-1.2 Finding Slope STO: NC 4.01 TOP: 6-1 Example 3
KEY: graphing,finding slope using a graph,slope
MSC: NAEP M1l, NAEP A2a, NAEP A2b, CAT5.LV19.46, CAT5.LV19.54, IT.LV15.CP, IT.LV15.DI, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.10, TV.LV19.11, TV.LV19.14, TV.LV19.15, TV.LVALG.53

19. ANS: B DIF: L1 REF: 6-1 Rate of Change and Slope
OBJ: 6-1.2 Finding Slope STO: NC 4.01 TOP: 6-1 Example 4
KEY: finding slope using points,slope
MSC: NAEP M1l, NAEP A2a, NAEP A2b, CAT5.LV19.46, CAT5.LV19.54, IT.LV15.CP, IT.LV15.DI, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.10, TV.LV19.11, TV.LV19.14, TV.LV19.15, TV.LVALG.53

20. ANS: B DIF: L1 REF: 5-2 Relations and Functions

OBJ: 5-2.2 Evaluating Functions STO: NC 4.01, NC 4.01a
TOP: 5-2 Example 4 KEY: function
MSC: NAEP A1g, CAT5.LV19.53, CAT5.LV19.54, IT.LV15.DI, IT.LV15.PS, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.14, TV.LV19.16, TV.LVALG.56