Name: _____ Class: _____ Date: _____ ID: A

## final review packet sem 1 2014-2015

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

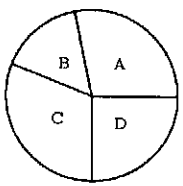
**Write the fraction in simplest form.**

____ 1. $\frac{18}{30}$
a. $\frac{3}{5}$ b. $\frac{9}{16}$ c. $\frac{4}{7}$ d. $\frac{2}{3}$

____ 2. Identify the fraction that is equivalent to $\frac{2}{7}$.
a. $\frac{8}{28}$ b. $\frac{8}{21}$ c. $\frac{6}{28}$ d. $\frac{10}{28}$

____ 3. Write $3 \cdot 3 \cdot 3 \cdot 3 \cdot 3 \cdot 3$ using an exponent.
a. $33^6$ b. $3^6$ c. $3 \cdot 6$ d. $6^3$

____ 4. Which graph or graphs would be best for showing the depth of water in a pond over a period of time?

I.
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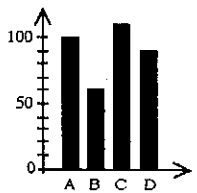


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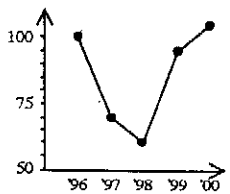


a. I b. I, II, or III c. III d. I or II

____ 5. $\frac{5}{12} + \frac{8}{12} =$
a. $\frac{13}{24}$ b. $1\frac{2}{3}$ c. $3\frac{1}{3}$ d. $1\frac{1}{12}$

____ 6. $\frac{6}{12} - \frac{3}{12} =$
a. $\frac{3}{8}$ b. $\frac{1}{8}$ c. $\frac{3}{4}$ d. $\frac{1}{4}$

____ 7. $\frac{6}{10} - \frac{1}{3} =$
a. $1\frac{9}{10}$ b. $\frac{4}{15}$ c. $\frac{14}{15}$ d. $\frac{1}{6}$



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____ 8. $\frac{3}{6} \times \frac{7}{10} =$
a. $\frac{7}{20}$ b. $2\frac{1}{10}$ c. $\frac{5}{7}$ d. $3\frac{1}{2}$

____ 9. $\frac{5}{12} \div \frac{2}{8} =$
a. $3\frac{1}{3}$ b. $1\frac{2}{3}$ c. 20 d. $\frac{5}{48}$

**Write as a decimal.**

____ 10. $3\frac{2}{5}$
a. 0.4 b. 5.5 c. 3.4 d. 1.2

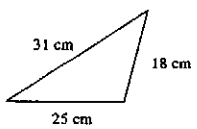
**Write as a percent.**

____ 11. 0.63
a. 0.063% b. 6.3% c. 630% d. 63%

____ 12. $\frac{1}{5}$
a. 50% b. 5% c. 20% d. 2%

**Find the perimeter of the figure.**

____ 13.




Drawing not to scale

a. 74 cm b. 80 cm c. 68 cm d. 87 cm

____ 14. Jan saved $1.00 from her first paycheck from her summer job. She saved $1.15 from her second paycheck and $1.30 from her third paycheck. She kept to this pattern for ten weeks. How much money did she save from her sixth paycheck?
a. $1.90 b. $1.50 c. $1.75 d. $0.75

____ 15. During the past month, you withdrew $22 from your savings account and then deposited $24. If your balance at the end of the month is $120, how much did you have in your account at the beginning of the month?
a. $166 b. $74 c. $118 d. $122

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____ 16. For $A = \begin{bmatrix} 10 & -6 \\ 12 & 0 \end{bmatrix}$ and $B = \begin{bmatrix} -6 & 2 \\ -5 & 3 \end{bmatrix}$, find $A + B$.

a. $\begin{bmatrix} -4 & 21 \\ 9 & 4 \end{bmatrix}$ b. $\begin{bmatrix} 4 & -4 \\ 7 & 3 \end{bmatrix}$ c. $\begin{bmatrix} 4 & -12 \\ 12 & -5 \end{bmatrix}$ d. $\begin{bmatrix} 16 & -8 \\ 17 & -3 \end{bmatrix}$

**Simplify the expression.**

____ 17. $-4.8 - (-4.9) + 5.7$

a. $-4$ b. $-5.8$ c. $5.8$ d. $-15.4$

____ 18. $|18 - 6|$

a. 13 b. $-13$ c. 12 d. $-12$

____ 19. $-5^4$

a. 20 b. 125 c. $-625$ d. 625

____ 20. $-1(-5 - c)$

a. $-5 + c$ b. $5 + c$ c. $5 - c$ d. $-5 - c$

____ 21. $1.7m^2 + 6.5n - 4n + 2.5m^2 - n$

a. $4.2m^2 + 1.5n$
b. $4.2m^2 - 1.5n$
c. $1.5m^2 - 4.2n$
d. $1.5m^2 + 4.2n$

____ 22. Evaluate $-x + 2.7$ for $x = 0.9$.

a. $-1.8$ b. $-3.6$ c. 1.8 d. 3.6

____ 23. The temperature on a summer afternoon is 85°F. Define a variable and write an expression to find the temperature after it changes. Then evaluate your expression for a decrease of 11 degrees Fahrenheit.

a. $11 + c$; $11 + (-85) = 96$; 96°F
b. $85 + c$; $85 + (-11) = 74$; 74°F
c. $11 - c$; $11 - (-85) = 74$; 74°F
d. $85 - c$; $85 - (-11) = 96$; 96°F

____ 24. Evaluate $|-x - 2y|$ for $x = -2$ and $y = 3$.

a. 4 b. 8 c. $-4$ d. $-8$

____ 25. Evaluate $x(-y + z)$ for $x = 3$, $y = 3$, and $z = 1$.

a. $-6$ b. 10 c. 12 d. $-8$

____ 26. The product of two negative numbers is ____ positive.

a. always b. sometimes c. never

____ 27. Evaluate $7m + 2n - \frac{8p}{n}$ for $m = -4$, $n = 2$, and $p = 1.5$.

a. $-10$ b. $-19$ c. $-30$ d. $-22$



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____ 28. Evaluate $\frac{a}{b}$ for $a = -6$ and $b = -2$.

a. 12 b. 3 c. $\frac{4}{3}$ d. $-12$

**Write an algebraic expression for the phrase.**

____ 29. $-2$ times the quantity $q$ minus 3

a. $-2q - 3$ b. $q(-2 - 3)$ c. $\frac{-2}{q - 3}$ d. $-2(q - 3)$

____ 30. At the grocery store, you buy a carton of milk for \$1.95, a loaf of bread for \$0.85, and a bag of cookies for \$2.05. Use mental math to find the total cost of the groceries.

a. \$5.15 b. \$4.90 c. \$5.00 d. \$4.85

____ 31. You roll a standard number cube. Find $P$(number greater than 1)

a. $\frac{6}{5}$ b. $\frac{5}{6}$ c. $\frac{1}{6}$ d. 1

____ 32. Teesha is in the French club. There are 26 students in the club. The French teacher will pick 3 students at random to guide visiting students from France. What is the probability that Teesha will not be picked as a guide?

a. $\frac{3}{26}$ b. $\frac{29}{26}$ c. $\frac{23}{26}$ d. $\frac{3}{29}$

____ 33. In a word game, you choose a tile from a bag, replace it, and then choose another. If there are 21 vowels and 15 consonants, what is the probability you will choose a consonant and then a vowel?

a. $\frac{35}{8}$ b. $\frac{35}{4}$ c. $\frac{35}{144}$ d. $\frac{1}{36}$

____ 34. You have three \$1 bills, four \$5 bills, and two \$10 bills in your wallet. You select a bill at random. Without replacing the bill, you choose a second bill at random. Find $P$(\$10 then \$1).

a. $\frac{1}{12}$ b. $\frac{5}{81}$ c. $\frac{5}{72}$ d. $\frac{2}{27}$

____ 35. A basket contains 11 pieces of fruit: 4 apples, 5 oranges, and 2 bananas. Jonas takes a piece of fruit at random from the basket, and then Beth takes a piece at random. What is the probability that Jonas will get an orange and Beth will get an apple?

a. $\frac{9}{10}$ b. $\frac{9}{11}$ c. $\frac{20}{121}$ d. $\frac{2}{11}$

**Solve the equation.**

____ 36. $\frac{3}{7}x + 5 = 8$

a. 7 b. $1\frac{2}{7}$ c. $-7$ d. $7\frac{2}{3}$

____ 37. $11 = -d + 15$
a. 11 b. −4 c. 4 d. 6

____ 38. $2 = \frac{10 + z}{-3}$
a. −4 b. −16 c. 15 d. −5

____ 39. $37 - 18 + 8w = 67$
a. −6 b. 4 c. 7 d. 6

____ 40. $3(y + 6) = 30$
a. 5 b. 16 c. 4 d. −16

____ 41. $\frac{3x}{5} - 0.5 = 1.9$
a. 16 b. 0.16 c. 4 d. 2.3

____ 42. $3p - 1 = 5(p - 1) - 2(7 - 2p)$
a. 3 b. 0 c. −9 d. −10

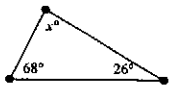
____ 43. $8d - 4d - 6d - 8 = 2d$
a. 0 b. −1 c. −2 d. −4

____ 44. A customer went to a garden shop and bought some potting soil for \$17.50 and 4 shrubs. The total bill was \$53.50. Write and solve an equation to find the price of each shrub.
a. $4p + \$17.50 = \$53.50$; $p = \$9.00$
b. $4(p + \$17.50) = \$53.50$; $p = \$4.00$
c. $4p + 17.5p = \$53.50$; $p = \$2.49$
d. $4p + \$17.50 = \$53.50$; $p = \$11.25$

____ 45. Steven wants to buy a \$565 bicycle. Steven has no money saved, but will be able to deposit \$30 into a savings account when he receives his paycheck each Friday. However, before Steven can buy the bike, he must give his sister \$65 that he owes her. For how many weeks will Steven need to deposit money into his savings account before he can pay back his sister and buy the bike?
a. 25 weeks b. 19 weeks c. 22 weeks d. 21 weeks

____ 46. John and 2 friends are going out for pizza for lunch. They split one pizza and 3 large drinks. The pizza cost \$14.00. After using a \$7.00 gift certificate, they spend a total of \$12.10. Write an equation to model this situation, and find the cost of one large drink.
a. $3d + \$14.00 - \$7.00 = \$12.10$; \$1.70
b. $2d + \$14.00 - \$7.00 = \$12.10$; \$2.55
c. $3d - \$14.00 + \$7.00 = \$12.10$; \$9.55
d. $3d + \$14.00 - \$7.00 = \$12.10$; \$1.90

____ 47. Find the measure of $\angle x$. (Hint: The sum of the measures of the angles in a triangle is 180°.)

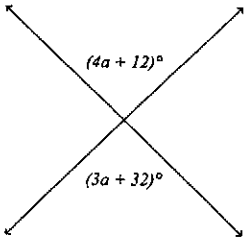



a. 6° b. 180° c. 90° d. 86°





____ 48. **a.** Find the value of $a$.
**b.** Find the value of the marked angles.

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a. 22; 100° b. 19; 88° c. 20; 92° d. 24; 108°

____ 49. Find the unit rate for number of parts manufactured per hour if 1630 parts are made in 6 hours. Round to the nearest integer.
a. 325 parts/h b. 272 parts/h c. 237 parts/h d. 291 parts/h

____ 50. A car is driving at a speed of 60 mi/h. What is the speed of the car in feet per minute?
a. 5,280 ft/min
b. 3,600 ft/min
c. 316,800 ft/min
d. 2,580 ft/min

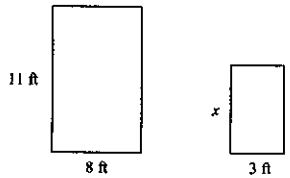
____ 51. \$7.80/hour = ____ cents/minute?
a. 13 b. 8.8 c. 780 d. 4.7

**Solve the proportion.**

____ 52. $\frac{w + 14}{4w + 6} = \frac{3}{4}$
a. $\frac{8}{19}$ b. $\frac{15}{28}$ c. $\frac{19}{4}$ d. $\frac{2}{7}$

**The pair of figures is similar. Find $x$. Round to the nearest tenth if necessary.**

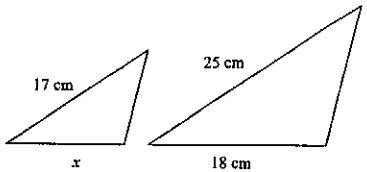
____ 53.




Drawing not to scale

a. 4.1 ft b. 2.2 ft c. 0.3 ft d. 2.7 ft

____ 54.




Drawing not to scale

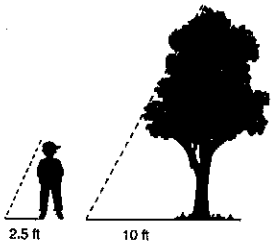
a. 12.2 cm b. 19.1 cm c. 26.5 cm d. 26 cm

____ 55. Two rectangles are similar. One has a length of 10 cm and a width of 8 cm, and the other has a width of 7 cm. Find the length of the second rectangle. Round to the nearest tenth if necessary.
a. 8.8 cm b. 6.6 cm c. 10.1 cm d. 5.6 cm





____ 56. A tree casts a shadow 10 ft long. A boy standing next to the tree casts a shadow 2.5 ft. long. The triangle shown for the tree and its shadow is similar to the triangle shown for the boy and his shadow. If the boy is 5 ft. tall, how tall is the tree?




Drawing not to scale

a. 18 ft b. 12.5 ft c. 15 ft d. 20 ft

____ 57. The sum of two consecutive integers is 59. Write an equation that models this situation and find the values of the two integers.
a. $n + 2n = 59; n = 19; 2n = 38$
b. $n + n + 1 = 59; n = 29; n + 1 = 28$
c. $n + n + 1 = 59; n = 30; n + 1 = 31$
d. $n + n + 1 = 59; n = 29; n + 1 = 30$

____ 58. Find the percent of change in altitude if a weather balloon moves from 100 ft to 103 ft. Describe the percent of change as an increase or decrease. Round to the nearest tenth if necessary.
a. 2.6%; increase c. 3%; increase
b. 3.4%; decrease d. 3%; decrease

____ 59. The circulation of a newsletter decreased from 5200 to 3140. Find the percent of decrease in circulation to the nearest percent.
a. 66% b. 40% c. 166% d. 6%

____ 60. Find the percent error of the measurement 4 cm.
a. 4% b. 1% c. 12.5% d. 40%

____ 61. Simplify $\sqrt{\frac{144}{49}}$.
a. $\frac{144}{7}$ b. $\frac{12}{49}$ c. $\frac{49}{12}$ d. $\frac{12}{7}$

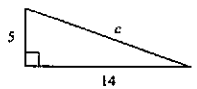
____ 62. Simplify $-\sqrt{2500}$.
a. $-50$ b. $\pm 50$ c. 25 d. $-25$

____ 63. Between what two consecutive integers is $\sqrt{151}$?
a. 11 and 12 b. 14 and 15 c. 12 and 13 d. 9 and 10

____ 64. The formula $v = \sqrt{64h}$ gives the velocity $v$ in feet per second of an object that has fallen $h$ feet. Find the velocity of an object that has fallen 76 feet. Round to the nearest hundredth.
a. 12.33 ft/sec b. 69.74 ft/sec c. 4864 ft/sec d. 49.32 ft/sec

**Find the length of the missing side. If necessary, round to the nearest tenth.**

____ 65. Use the Pythagorean Theorem




a. 361 b. 19 c. 38 d. 14.9

**Which number is a solution of the inequality?**

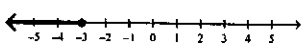
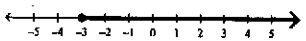
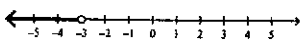
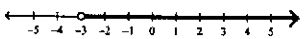
____ 66. $h > 11.3$
a. 15 b. 9 c. −14 d. 4

____ 67. $6 \geq 6k$
a. 8 b. 18 c. 2 d. 1

**Write the inequality in words.**

____ 68. $3n < 52$
a. fifty-two less than three times $n$
b. Three times $n$ is less than fifty-two.
c. Three times $n$ is less than or equal to fifty-two.
d. Three times $n$ is greater than fifty-two.

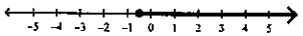
**Graph the inequality.**

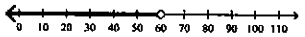
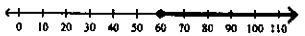
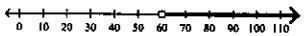
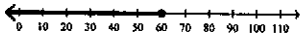
____ 69. $x \geq -3$
a. 
b. 
c. 
d. 





**Write an inequality for the graph.**

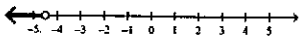
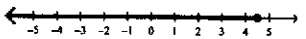
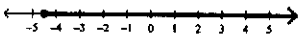
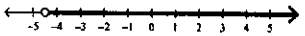
____ 70. 
a. $m \leq -\frac{1}{2}$ b. $m > -\frac{1}{2}$ c. $m \geq -\frac{1}{2}$ d. $m \geq \frac{1}{2}$

____ 71. Tina can type at least 60 words per minute. Write and graph an inequality to model this situation.
a. $t < 60$ 
b. $t \geq 60$ 
c. $t > 60$ 
d. $t \leq 60$ 

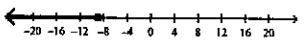
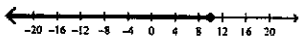
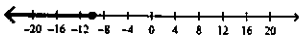
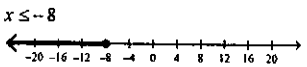
**Write an inequality to model the situation.**

____ 72. Thomas earned $44 or more.
a. $t > 44$ b. $t \leq 44$ c. $t < 44$ d. $t \geq 44$

**Identify the graph of the inequality from the given description.**

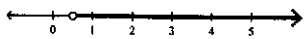
____ 73. $x$ is at least −4.5.
a. 
b. 
c. 
d. 

**Solve the inequality. Then graph your solution.**

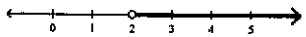
____ 74. $x - 1 \leq -9$
a. $x \leq \frac{-9}{1}$ 
b. $x \leq 10$ 
c. $x \leq -10$ 
d. $x \leq -8$ 

___ 75. $\frac{x}{8} > 4$

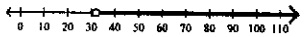
a. $x > \frac{1}{2}$



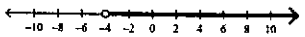
b. $x > 2$



c. $x > 32$

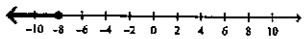


d. $x > -4$

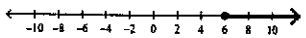


___ 76. $-\frac{x}{4} \le 2$

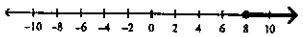
a. $x \le -8$



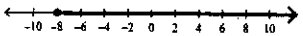
b. $x \le 6$



c. $x \ge 8$

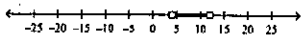


d. $x \ge -8$

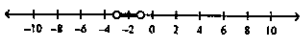


___ 77. $-2 < 4x - 10 < 6$

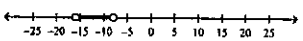
a. $4 < x < 12$



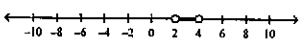
b. $-3 < x < -1$



c. $-16 < x < -8$



d. $2 < x < 4$



**Solve the inequality.**

___ 78. $c - 12 > -1$

a. $c > -13$ b. $c > 11$ c. $c > 13$ d. $c < -13$

___ 79. $12x - 3x + 11 > 4x - (17 - 9x)$

a. $x > -7$ b. $x < 7$ c. $x < -\frac{14}{11}$ d. $x > -\frac{14}{11}$

___ 80. $\frac{1}{5} + \frac{1}{3}x > \frac{1}{2}x - \frac{1}{4}$

a. $\frac{27}{10} < x$ b. $x < \frac{2}{9}$ c. $x < \frac{27}{10}$ d. $x < \frac{3}{40}$

___ 81. The French club is sponsoring a bake sale. If their goal is to raise at least \$140, how many pastries must they sell at \$3.50 each in order to meet that goal? Write and solve an inequality.

a. $3.50p \ge 140$; $p \ge 490$
b. $140p \ge 3.50$; $p \ge 40$
c. $3.50p \ge 140$; $p \ge 136.5$
d. $3.50p \ge 140$; $p \ge 40$





**Write an inequality for the situation.**

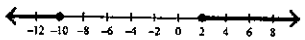
___ 82. all real numbers $y$ that are less than 4 or greater than 9

a. $4 < y < 9$
b. $y < 4$ or $y > 9$
c. $y < 4$ or $y > 9$
d. $y < 9$ or $y > 4$

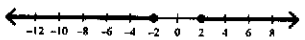
**Solve the compound inequality. Graph your solution.**

___ 83. $\frac{2x-1}{3} + 3 \le -4$ or $\frac{8x-2}{2} - 1 \ge 6$

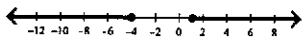
a. $x \le -10$ or $x \ge 2$



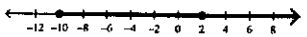
b. $x \le -2$ or $x \ge 2$



c. $x \le -4$ or $x \ge \frac{9}{8}$



d. $x \ge -10$ or $x \ge 2$



**Solve the equation. If there is no solution, write *no solution*.**

___ 84. $|x| - 7 = 6$

a. $x = 13$
b. $x = 13$ or $x = -13$
c. $x = -1$
d. no solution

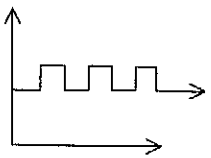
___ 85. $2|n| - 12 = 16$

a. $n = 14$ or $n = -14$
b. $n = 26$ or $n = -30$
c. no solution
d. $n = 14$

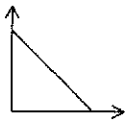
___ 86. Which graph is the most appropriate to describe a quantity decreasing at a steady rate?

a.

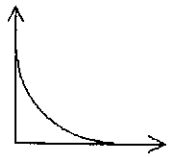
b.



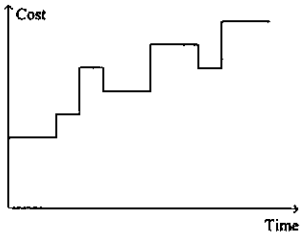
c.



d.



____ 87. The graph below shows how the cost of gasoline changes over one month. According to the graph, the cost of gasoline _____ decreases.

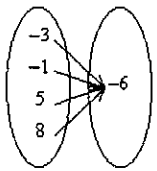



a. always b. sometimes c. never

____ 88. A function is _____ a relation.
a. always b. sometimes c. never

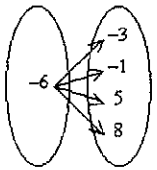
____ 89. Identify the mapping diagram that represents the relation and determine whether the relation is a function.
$\{(-3,-6),(-1,-6),(5,-6),(8,-6)\}$

a.



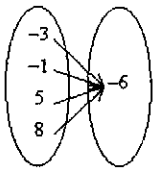

The relation is not a function.

c.



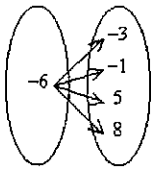

The relation is a function.

b.




The relation is a function.

d.



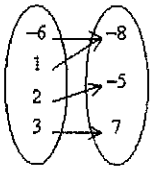

The relation is not a function.





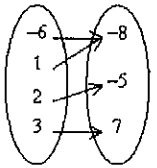
____ 90. Identify the mapping diagram that represents the relation and determine whether the relation is a function.
$\{(-8,-6),(-5,2),(-8,1),(7,3)\}$

a.



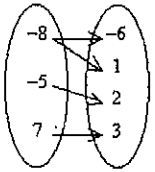

The relation is a function.

c.



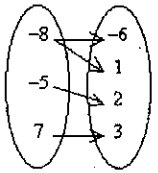

The relation is not a function

b.




The relation is a function.

d.




The relation is not a function.

____ 91. Evaluate $f(x) = \frac{1}{3}x$ for $x = 4$.

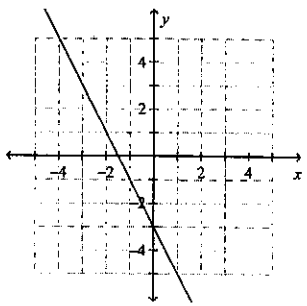
a. $1\frac{1}{3}$ b. $\frac{1}{12}$ c. $\frac{3}{4}$ d. $-12$

Name: _____ ID: A

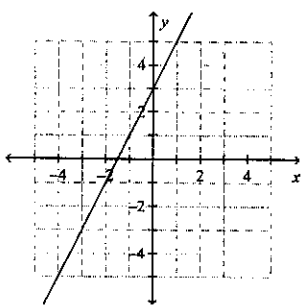
**Graph the function.**

____ 92. $y = -2x + 3$

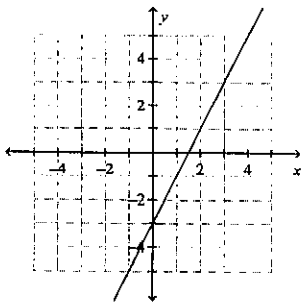
a.



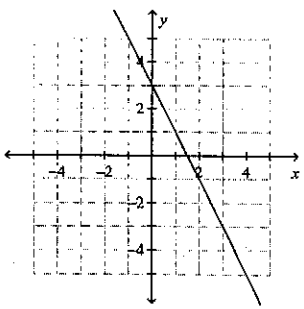
c.



b.



d.

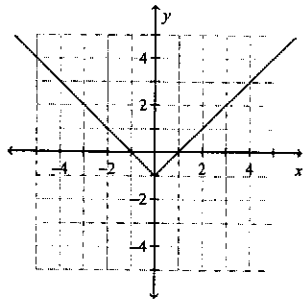




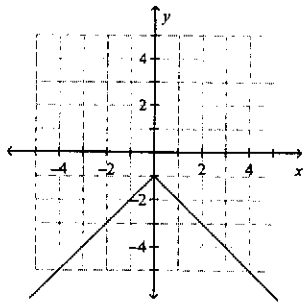
Name: _____ ID: A

____ 93. $y = |x| - 1$

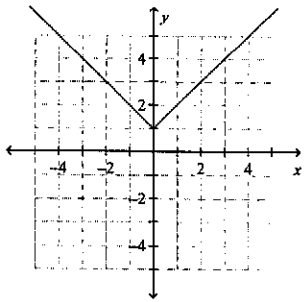
a.



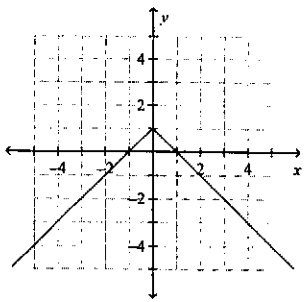
c.



b.

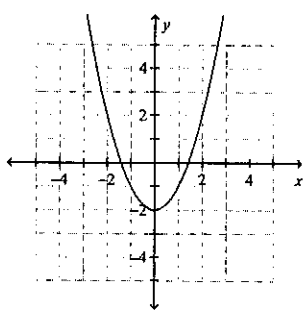


d.

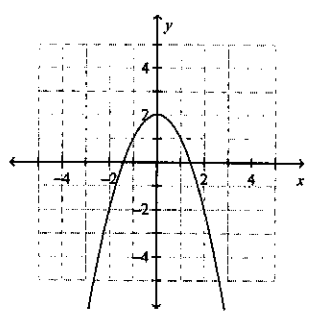


____ 94. $y = x^2 - 2$

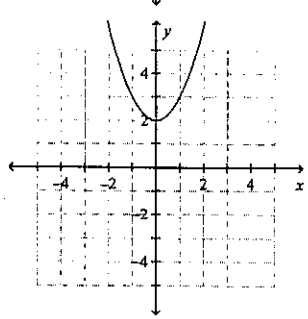
a.



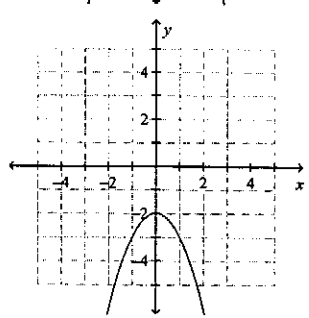
c.



b.



d.

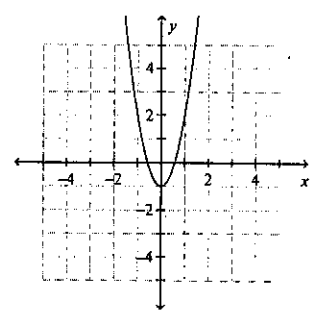




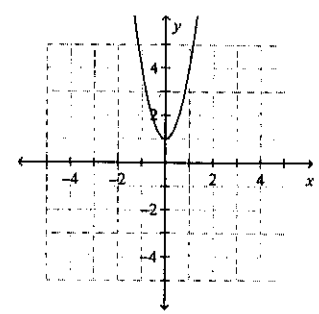


____ 95. $y = -3x^2 - 1$

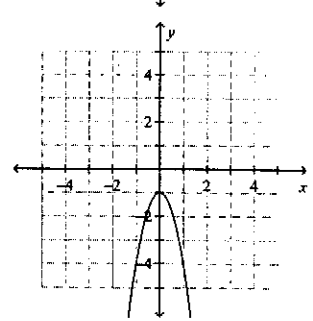
a.



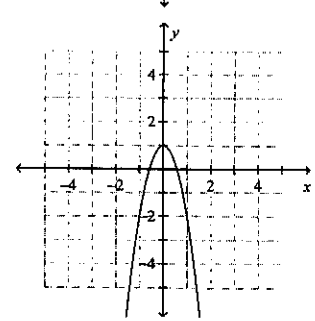
c.



b.



d.



**Write a function rule for the table.**

____ 96.

| $x$ | $f(x)$ |
|---|---|
| 3 | 7 |
| 4 | 8 |
| 5 | 9 |
| 6 | 10 |

a. $f(x) = x - 4$ b. $f(x) = 4x$ c. $f(x) = x + 4$ d. $f(x) = -4 - x$

____ 97. Write a function rule that gives the total cost $c(p)$ of $p$ pounds of sugar if each pound costs \$0.59.

a. $c(p) = 59p$

b. $c(p) = \dfrac{p}{0.59}$

c. $c(p) = p + 0.59$

d. $c(p) = 0.59p$

____ 98. A zucchini plant in Darnell's garden was 10 centimeters tall when it was first planted. Since then, it has grown approximately 0.5 centimeter per day.
a. Write a rule to describe the function.
b. After how many days will the zucchini plant be 0.185 meter tall?

a. $h(d) = 0.5d + 10$; 17 days
b. $h(d) = 10d + 0.5$; 1.1 days
c. $h(d) = \frac{d}{0.5} + 10$; 4 days
d. $h(d) = 0.5d$; 37 days

**Find the constant of variation $k$ for the direct variation.**

____ 99. $3x + 5y = 0$

a. $k = -\frac{3}{5}$
b. $k = 5$
c. $k = \frac{3}{5}$
d. $k = \frac{5}{3}$

____ 100.

| $x$ | $f(x)$ |
|---|---|
| −1 | 2 |
| 0 | 0 |
| 2 | −4 |
| 5 | −10 |

a. $k = -1.5$
b. $k = 2$
c. $k = -0.5$
d. $k = -2$

____ 101. Write an equation of the direct variation that includes the point (9, −12).

a. $y = 1\frac{1}{3}x$
b. $y = -\frac{1}{12}x$
c. $y = -1\frac{1}{3}x$
d. $y = -\frac{3}{4}x$

____ 102. The total cost of gasoline varies directly with the number of gallons purchased. Gas costs $1.89 per gallon. Write a direct variation to model the total cost $c$ for $g$ gallons of gas.

a. $g = 1.89c$
b. $c = g + 1.89$
c. $c = 1.89g$
d. $c = \frac{g}{1.89}$

**Use inductive reasoning to describe the pattern. Then find the next two numbers in the pattern.**

____ 103. −9, −4, 1, 6, . . .
a. add 5 to the previous term; 11, 16
b. multiply the previous term by 5; 30, 150
c. subtract 5 from the previous term; 1, −4
d. multiply the previous term by 5; 11, 150

____ 104. −5, −10, −20, −40, . . .
a. multiply the previous term by 2; −80, −160
b. add −5 to the previous term; −35, −30
c. subtract 5 from the previous term; −80, −160
d. multiply the previous term by −2; 80, −160





**Find the common difference of the arithmetic sequence.**

____ 105. $2, 1\frac{8}{9}, 1\frac{7}{9}, 1\frac{2}{3}, \ldots$

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

**Find the first, fourth, and tenth terms of the arithmetic sequence described by the given rule.**

____ 106. $A(n) = 12 + (n - 1)(3)$

a. 12, 24, 42
b. 0, 9, 27
c. 3, 24, 27
d. 12, 21, 39

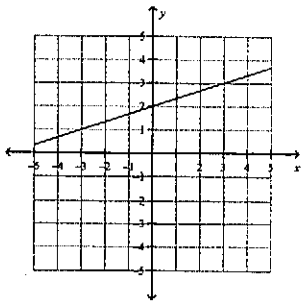
**Find the rate of change for the situation.**

____ 107. You run 7 miles in one hour and 21 miles in three hours.
a. 3 miles per hour
b. 3 hours
c. 7 miles
d. 7 miles per hour

____ 108. A chef cooks 9 lbs of chicken for 36 people and 17 lbs of chicken for 68 people.
a. $\frac{9}{17}$ lb per person
b. 4 lb per person
c. $\frac{1}{4}$ lb per person
d. 36 people

**Find the slope of the line.**

____ 109.



a. $-\frac{1}{3}$
b. −3
c. 3
d. $\frac{1}{3}$

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

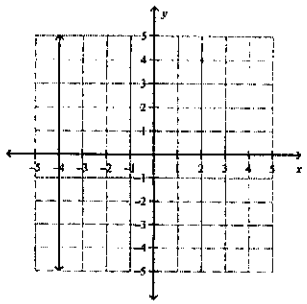
____ 110. (−5.5, 6.1), (−2.5, 3.1)

a. −1
b. 1
c. −1
d. 1

Name: _____ ID: A

**State whether the slope is 0 or undefined.**

____ 111.



a. 0

b. undefined

**Find the slope and $y$-intercept of the line.**

____ 112. $y = \frac{4}{3}x - 3$

a. $3; \frac{4}{3}$

b. $-3; \frac{4}{3}$

c. $\frac{3}{4}; 3$

d. $\frac{4}{3}; -3$

____ 113. $14x + 4y = 24$

a. $-\frac{2}{7}; 6$

b. $-\frac{7}{2}; 6$

c. $-\frac{7}{2}; \frac{1}{6}$

d. $14; 24$

**Write an equation of a line with the given slope and $y$-intercept.**

____ 114. $m = 1, b = 4$

a. $y = 4x + 1$

b. $y = x - 4$

c. $y = -1x + 4$

d. $y = x + 4$

____ 115. $m = \frac{1}{4}, b = -\frac{3}{4}$

a. $y = 4x - \frac{3}{4}$

b. $y = \frac{1}{4}x - \frac{3}{4}$

c. $y = -\frac{3}{4}x + \frac{1}{4}$

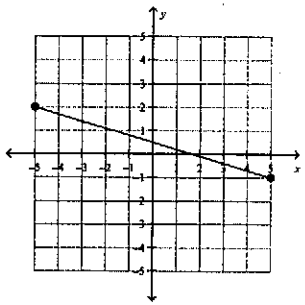
d. $y = \frac{1}{4}x + \frac{3}{4}$



Name: _____ ID: A

**Write the slope-intercept form of the equation for the line.**

____ 116.



a. $y = -\frac{10}{3}x + \frac{1}{2}$

b. $y = \frac{3}{10}x + \frac{1}{2}$

c. $y = -\frac{3}{10}x + \frac{1}{2}$

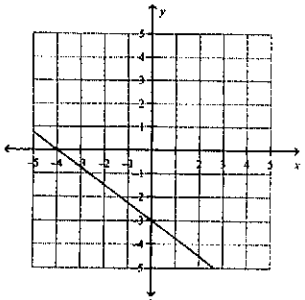
d. $y = \frac{1}{2}x + \frac{3}{10}$

Name: _____ ID: A

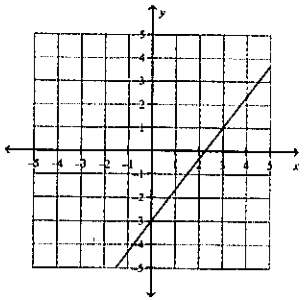
____ 117. Use the slope and $y$-intercept to graph the equation.

$y = \frac{3}{4}x - 3$

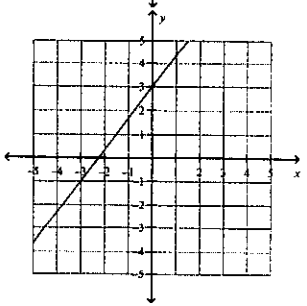
a.



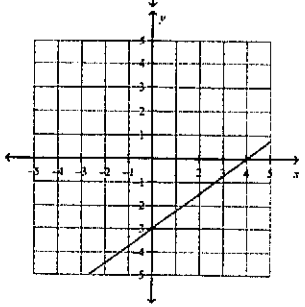
c.



b.



d.



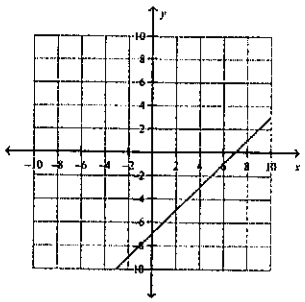


Name: _____ ID: A

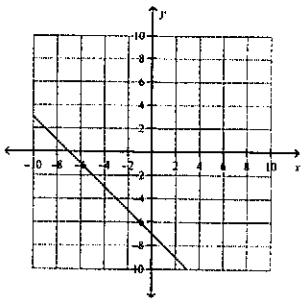
**Match the equation with its graph.**

____ 118. $-7x + 7y = -49$

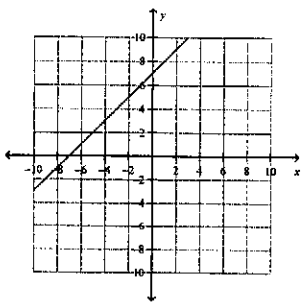
a.



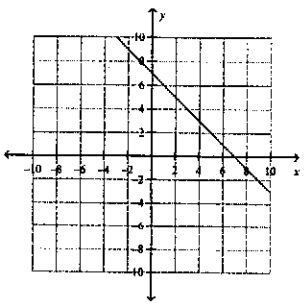
c.



b.

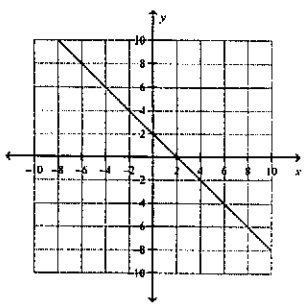


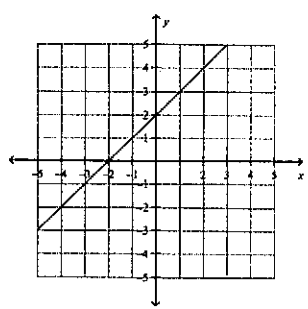
d.

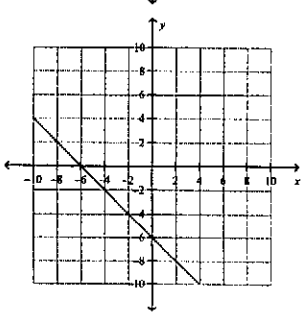


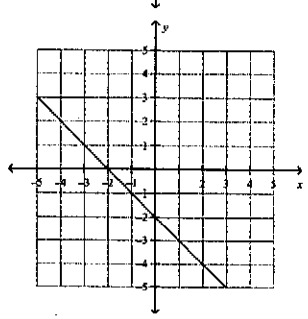
**Graph the equation.**

____ 119. $y + 2 = -(x - 4)$

a.


c.


b.


d.


____ 120. In February, you have a balance of $270 in your bank account. Each month you deposit $45. Let January = 1, February = 2, and so on. Write an equation for this situation. Use the equation to find the balance in June.

a. $y - 270 = 45(x - 2)$ ; $450
b. $y = 45(x - 4)$; $270
c. $y = 45(x - 4)$; $180
d. $y - 270 = 45x$; $45

**Are the graphs of the lines in the pair parallel? Explain.**

____ 121. $y = \frac{1}{6}x + 8$
$-2x + 12y = -11$

a. Yes, since the slopes are the same and the $y$-intercepts are the same.
b. No, since the $y$-intercepts are different.
c. Yes, since the slopes are the same and the $y$-intercepts are different.
d. No, since the slopes are different.





**Write an equation for the line that is parallel to the given line and that passes through the given point.**

____ 122. $y = -5x + 3$; $(-6, 3)$

a. $y = -5x + 27$
b. $y = -5x - 27$
c. $y = 5x - 9$
d. $y = -5x + 9$

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

____ 123. $7x - 4y = 4$
$x - 4y = 3$

a. perpendicular
b. parallel
c. neither

____ 124. $y = -\frac{1}{2}x - 11$
$16x - 8y = -8$

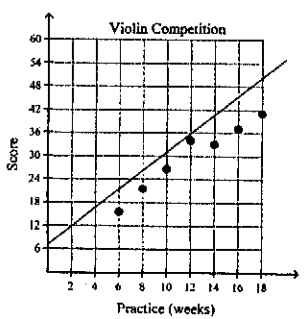
a. neither
b. perpendicular
c. parallel

Name: _____ ID: A

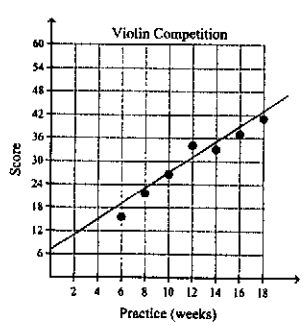
____ 125. Which graph shows the best trend line for the following data?

| Practice (weeks) | 6 | 8 | 10 | 12 | 14 | 16 | 18 |
|---|---|---|---|---|---|---|---|
| Score | 15.5 | 21.5 | 26.5 | 34 | 33 | 37 | 41 |

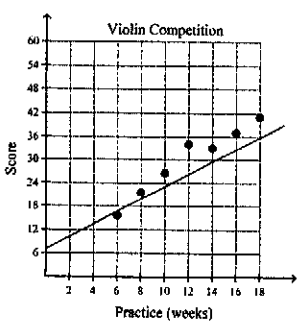
a.



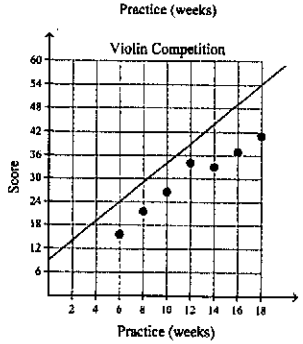

c.




b.




d.

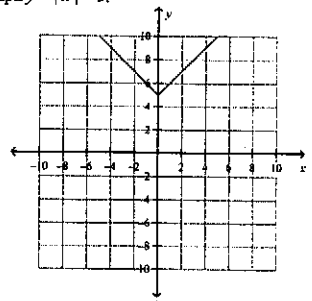




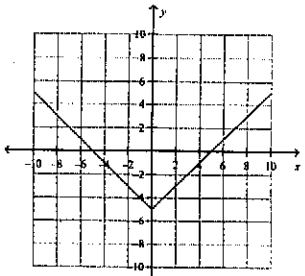

Name: _____ ID: A

____ 126. Graph $y = |x| - 5$.

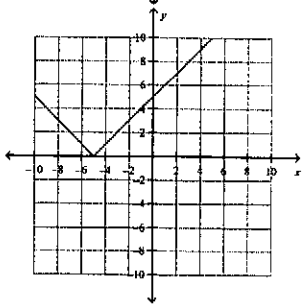
a.



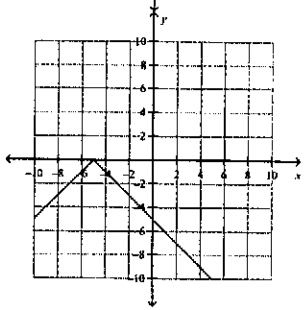
c.



b.

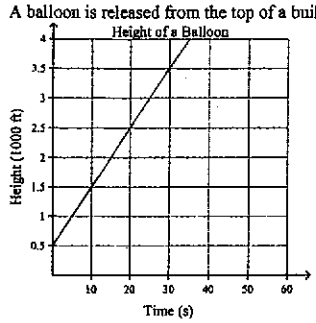


d.



Name: _____ ID: A

____ 127. A balloon is released from the top of a building. The graph shows the height of the balloon over time.




a. What does the slope and $y$-intercept reveal about the situation?
b. For a similar situation, the slope is 35 and the $y$-intercept is 550. What can you conclude?

a. The balloon starts at a height of 500 ft, and rises at a rate of 100 ft; the balloon starts at a height of 550 ft, and rises at a rate of 35 ft.
b. The balloon starts at a height of 500 ft, and rises at a rate of 100 ft; the balloon starts at a height of 35 ft, and rises at a rate of 550 ft.
c. The balloon starts at a height of 100 ft, and rises at a rate of 500 ft; the balloon starts at a height of 550 ft, and rises at a rate of 35 ft.
d. The balloon starts at a height of 100 ft, and rises at a rate of 500 ft; the balloon starts at a height of 35 ft, and rises at a rate of 550 ft.

___ 128. 16 is 30% of what?

a. 480

b. 53.3

c. 4.8

d. 50