Algebra 1 Semester 1 Final Exam Practice Test (Model Problems + Chapters 1-5)

1. Which number below is a counterexample to the statement shown?

All perfect square numbers are odd.

a. 25 c. 16

b. 21 d. 10

2. Tim's solution to an equation is shown below:

$$-5(x+2)=4$$

Step 1: $-5x-10=4$

Step 2: $-5x=14$

Step 3: $x=-\frac{14}{5}$

Name the property of real numbers Tim used for each Step :

3. The cost of a trip in a taxi that is m miles long is given by the equation $c=4.25+3.5m$. If a trip costs \$60.25, how many miles long was the trip?

4. Which step is the first incorrect step in the solution shown? Then show the correct way to solve the equation.

Given: $9x+4=-2(x-4)$

Step 1: $9x+4=-2x+8$

Step 2: $11x+4=8$

Step 3: $11x=12$

Step 4: $x=\frac{12}{11}$

5. Solve. $-4x+2>10$

6. Match the statement with the property that it illustrates.

$0\bullet(yahoo)=0$ _____

$y(-2x)=-2x(y)$ _____

$25(2+x)=50+25x$ _____

$1\bullet 6v=6v$ _____

$2+(4+b)+2b=2+4+(b+2b)$ _____

A. Identity property of multiplication

B. Commutative property of multiplication

C. Distributive property

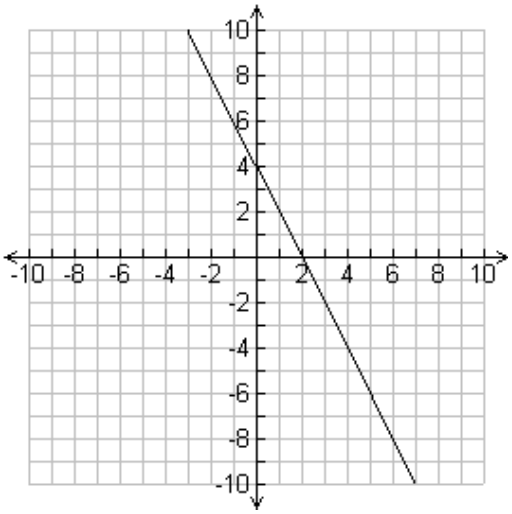
D. Associative property of addition

E. Multiplication property of zero

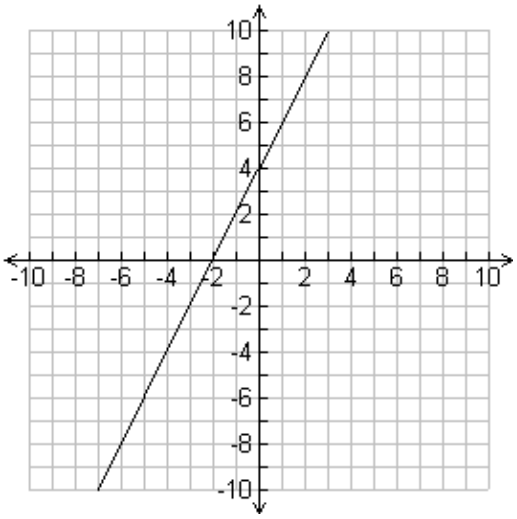
7.	The formula for converting from Celsius (*C*) degrees to Fahrenheit (*F*) is $F = 32 + \frac{9}{5}C$. What is the temperature in Fahrenheit if *C* = 90˚?
8.	The cost to rent a car is \$30 per day plus \$40 to fill up the gas tank. Write an inequality to represent the number of days that the car can be rented if the cost is not to exceed \$250.
9.	A 51-foot-long piece of string is cut into 3 pieces. The second piece is twice as long as the first piece. The third piece is 7 feet longer than the first piece. What is the length of the shortest piece of rope?
10.	What is the complete solution of $\|5x - 2\| \leq 8$?
11.	Which equation is equivalent to $3(x+1)-2(4-x)=10$? a. $x=15$ c. $x=5$ b. $5x=15$ d. $5x=5$
12.	Which equation is equivalent to $5x - 3(6x - 2) = 12x$? a. $-12x + 4 = 12x$ c. $-13x - 2 = 12x$ b. $-13x - 6 = 12x$ d. $-13x + 6 = 12x$
13.	Which inequality is the simplified form of $3(x - 4) + 5x > 2x$? a. $8x - 12 > 2x$ c. $-7x > 2x$ b. $8x - 4 > 2x$ d. $4x > 2x$
14.	What is the x-intercept of the line defined by the equation $-2x+8y=-24$?
15.	What is the y-intercept of the line defined by the equation $x-4y=-20$?

16. Which best represents the graph of the equation $y = -2x + 4$

a.



c.



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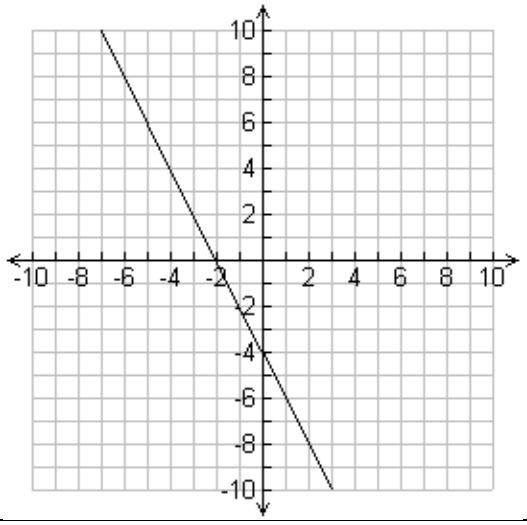

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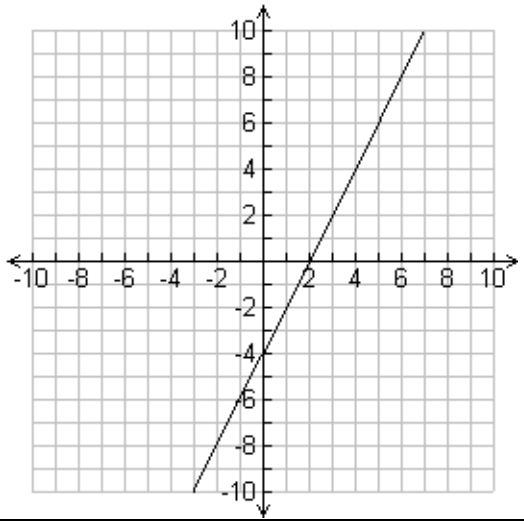


17. If $-a = 23$, then $a =$

18. If $a = 2\frac{1}{3}$, what is the reciprocal of a?

19. Simplify: $24 - 4 \div 2 - 2 \times 3$

20. Evaluate: $\left(\frac{1}{3}\right)^4$

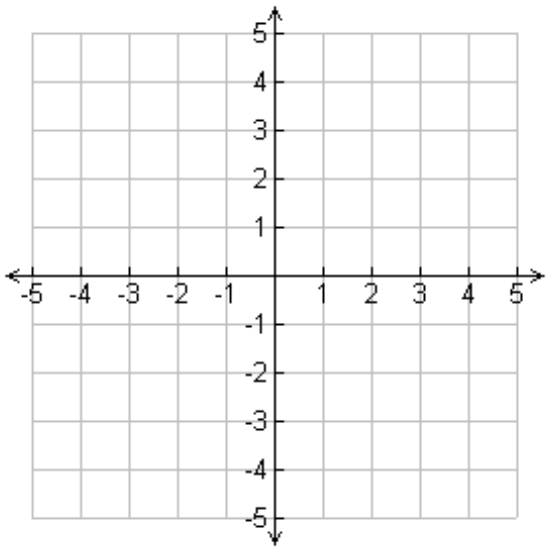
21. Evaluate 5^4:

22. Evaluate $-3.14x$ when $x = 5$:

23. Simplify: $-6(-3 + 2x)$

24. Write an expression equivalent to $-\sqrt{81}$:	25. Evaluate $2(3-x)-y$ when $x=-2$ and $y=3$:
26. Simplify: $\frac{-100x+10}{-20}$?	27. Solve: $-1.2y=-7.2$
28. Solve: $\frac{x}{3}-7=8$	29. Solve: $2x-8x=42$
30. Solve: $\frac{1}{4}(b+2)=-6$	31. Solve: $\frac{24}{6}=\frac{2x+1}{3}$
32. Solve and graph the solution to $4x-8\geq 20$	33. Solve: $5\lvert x-1\rvert>15$
34. Rewrite in slope-intercept form: $4x+3y=-33$	35. Find the x-intercept and the y-intercept of the graph of the equation $3x-4y=-36$?

36. Graph $x = -2$



37. Graph $y = -\frac{1}{3}x - 2$?