

****Today we are working on #26-50 on our Secondary Math II - Review (it is SAGE/final review).**

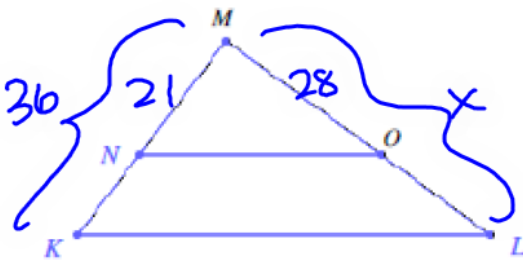
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9. In $\triangle KLM$, $\overline{KL} \parallel \overline{NO}$. Given that $MK = 36$, $MN = 21$, and $MO = 28$, find ML .



$\frac{36}{21} = \frac{x}{28}$

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50. The equation of a circle is given below. Identify the center and radius. Then graph the circle.

$x^2 + y^2 + 4x - 2y - 20 = 0$

$x^2 + 4x + 4 + y^2 - 2y + 1 = 20 + 4 + 1$

$(x+2)^2 + (y-1)^2 = 25$

Center: $(-2, 1)$
Radius: 5 $25 = r^2$

$(x-h)^2 + (y-k)^2 = r^2$
r = radius
(h,k) is center

$2 \cdot 2 = 4$
 $(x-2)^2$

$-1 \cdot -1 = 1$

Center: $(5, -2)$

radius: 3
 $(x-h)^2 + (y-k)^2 = r^2$

$(x-5)^2 + (y-2)^2 = 3^2$

$(x-5)^2 + (y+2)^2 = 9$

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47. Consider the circle centered at the origin with radius 9.

(a) Give the equation of the circle.

$(x-0)^2 + (y-0)^2 = 9^2$
 $x^2 + y^2 = 9^2$ or $x^2 + y^2 = 81$

(b) For each point in the table below, decide whether or not it is on the circle.

(x, y)	Is the point on the circle?	
	Yes	No
(0, -5)	<input type="radio"/>	<input checked="" type="radio"/>
$(\sqrt{17}, 8)$	<input checked="" type="radio"/>	<input type="radio"/>
(3, 0)	<input type="radio"/>	<input checked="" type="radio"/>
$(-8, \sqrt{17})$	<input checked="" type="radio"/>	<input type="radio"/>

$0^2 + (-5)^2 = 25$
 $\sqrt{17}^2 + 8^2 = 81$
 $3^2 + 0^2 = 9$
 $(-8)^2 + \sqrt{17}^2 = 81$

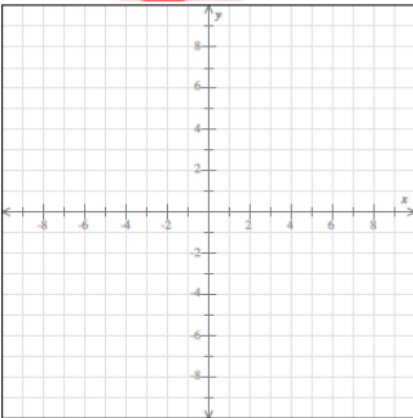
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43. Write the following as an exponential expression.
 $\sqrt[5]{t^4} = t^{4/5}$

44. Multiply.
 $(-3 + 6i)(-4 + 3i) = 12 - 9i - 24i + 18i^2 = 12 - 33i - 18 = -6 - 33i$
 Write your answer as a complex number in standard form.
 $-6 - 33i$

45. Graph the equation.
 $y = -5|x|$



Handwritten notes on the right side of the page:
 $\sqrt{2} = 2^{1/2}$
 $\sqrt{3} = 3^{1/2}$
 $\sqrt[3]{2} = 2^{1/3}$
 $\sqrt[4]{2} = 2^{1/4}$

Handwritten notes above the multiplication:
 $i = \sqrt{-1}$
 $i^2 = -1$

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38. Compare the functions $f(x) = 3^x$ and $g(x) = 50x^2$ by completing parts (a) and (b).

(a) Fill in the table below. Note that the table is already filled in for $x = 4$.

x	$f(x) = 3^x$	$g(x) = 50x^2$
4	81	800
5	$3^5 = 243$	$50(5)^2 = 1250$
7	$3^7 = 2187$	$50(7)^2 = 2450$
8	$3^8 = 6561$	$50(8)^2 = 3200$
9	$3^9 = 19683$	$50(9)^2 = 4050$

(b) For $x \geq 5$, the table suggests that $f(x)$ is [always / sometimes / never] greater than $g(x)$.

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24. Write a quadratic function f whose zeros are -5 and -7 . $x = -5, -7$ $(x+5)(x+7) = 0$

25. Fill in the blank to make the expression a perfect square.
 $x^2 - 12x + \underline{36}$ $\# \cdot 0 = 0$
 $0 \cdot \# = 0$

26. Solve for u .
 $u^2 - 10u + 21 = 0$ $(u-7)(u-3) = 0$
 $u = 7, 3$

27. Solve for w .
 $5w^2 = -17w - 6$
 $5w^2 + 17w + 6 = 0$

28. Write the quadratic function in the form $f(x) = a(x-h)^2 + k$.

	x	-6
x	x^2	$-6x$
-6	$-6x$	36

36