Algebra 2

Review Ch. 6

1. No FMC, will have exit ticket instead
   Add to HW paper (top?)
2. Homework: class.name.date
   Shared folder by class time tomorrow

Will post link to googlemeet on website (lesson plans) in the usual place in case you don't receive the invite.

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Example 11

Solve $\sqrt{2x+9}-2=5$.

$+2 \quad +2$

$(\sqrt{2x+9})^2 = (7)^2$

$2x+9=49$

$-9 \quad -9$

$2x=40$

$x=20$

$x=2$ or 11

$\sqrt{4+9}-2=5$

$\sqrt{49}-2=5$

$7-2=5$

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69. $\sqrt{m+3}=\sqrt{2m+1}$

$\sqrt{5}=\sqrt{5}$ 11

$m+3=2m+1$

$-m-1 \quad -m-1$

$2=m$

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67. $-\sqrt{x-11}=3-\sqrt{x}$

$(\sqrt{x-11})^2=(\sqrt{x}-3)^2$

$x-11=x-6\sqrt{x}+9$

$-x \quad -x$

$-11=-6\sqrt{x}+9$

$-9 \quad -9$

$\frac{-20}{-6}=\frac{-6\sqrt{x}}{-6}$

$\left(\frac{20}{6}\right)^2=(\sqrt{x})^2$

$\frac{400}{36}=x$

$\frac{100}{9}=x$

$\sqrt{x}-3$

$\sqrt{x}-3$

$-3\sqrt{x}+9$

$x-3\sqrt{x}$

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Example 12

Solve $\sqrt{2x-5}+2>5$.

$\sqrt{2x-5}>3$

$2x-5>9$

$+5 \quad +5$

$2x>14$

$x>7$

$2x-5\geq 0$

$2x\geq 5$

$x\geq 2.5$

not real 2.5 7 $x>7$

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Example 7

Simplify $2\sqrt[3]{18a^2b}\cdot 3\sqrt[3]{12ab^5}$.

$6\sqrt[3]{2\cdot 3\cdot 3\cdot 2\cdot 2\cdot 3\,a\,a\,b}$

$6\cdot 2\cdot 3\,a\,b^2\sqrt[3]{2}$

$36ab^2\sqrt[3]{2}$

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Example 8

Simplify $\sqrt{\frac{x^4}{y^5}}$.

$\frac{\sqrt{x^4}}{\sqrt{y^5}} = \frac{x^2}{y^2\sqrt{y}} \cdot \frac{\sqrt{y}}{\sqrt{y}} = \frac{x^2\sqrt{y}}{y^3}$

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Example 9

Simplify $a^{\frac{2}{3}} \cdot a^{\frac{1}{5}}$.

SGR 11-29.

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turn in HW

Exit ticket

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Example 10

Simplify $\frac{2a}{\sqrt[3]{b}}$.

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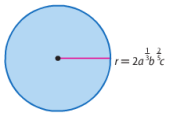
65. GEOMETRY What is the area of the circle?



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Given $f(x) = 2x^2 + 4x - 3$ and $g(x) = 5x - 2$, find each function. (Lesson 6-1)

1. $(f + g)(x)$
2. $(f - g)(x)$
3. $(f \cdot g)(x)$
4. $\left(\frac{f}{g}\right)(x)$
5. $[f \circ g](x)$
6. $[g \circ f](x)$

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Determine whether each pair of functions are inverse functions. Write *yes* or *no*. (Lesson 6-2)

8. $f(x) = 2x + 16$, $g(x) = \frac{1}{2}x - 8$
9. $g(x) = 4x + 15$, $h(x) = \frac{1}{4}x - 15$

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Find the inverse of each function, if it exists. (Lesson 6-2)

12. $h(x) = \frac{2}{5}x + 8$

13. $f(x) = \frac{4}{9}(x - 3)$

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Graph each inequality. (Lesson 6-3)

17. $y < \sqrt{x - 5}$

18. $y \leq -2\sqrt{x}$

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Graph each function. State the domain and range of each function. (Lesson 6-3)

21. $y = 2 + \sqrt{x}$

22. $y = \sqrt{x + 4} - 1$

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Simplify. (Lesson 6-4)

24. $\pm\sqrt{121a^4b^{18}}$

25. $\sqrt{(x^4 + 3)^{12}}$

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28. $\sqrt[3]{8(x + 4)^6}$

29. $\sqrt[4]{16(y + x)^8}$

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30. **MULTIPLE CHOICE** The radius of the cylinder below is equal to the height of the cylinder. The radius r can be found using the formula $r = \sqrt[3]{\frac{V}{\pi}}$. Find the radius of the cylinder if the volume is 500 cubic inches. (Lesson 6-4)

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