Warm Up March 13, 2019

1.) The area of a trapezoid can be found using the formula $A = 1/2h(b_1 + b_2)$, where h is the height and b_1 and b_2 are the bases. Express the formula in terms of b_1. → Solve!

$A = \frac{1}{2}h(b_1 + b_2)$

$\frac{2A}{h} = \frac{h(b_1 + b_2)}{h}$

$\frac{2A}{h} = b_1 + b_2$

$-b_2 \quad -b_2$

$\frac{2A}{h} - b_2 = b_1$

2.) Which of the following equations does *not* result in an answer of $x=5$?

A. $52 = 4x + 7x - 8 + x$

$52 = 12x - 8$

$60 = 12x$

$5 = x$

B. $5+2(3x + 4) = 43$

C. $2(4x - 12) + 3x = 6x + 1$

D. $2(4x + 7) = 2x + 4$

$8x + 14 = 2x + 4$

$\frac{6x}{6} = \frac{-10}{6}$ $x = -\frac{5}{3}$

3.) If the domain of the function $f(x) = 2x^2 - 8$ is $\{-2, 3, 5\}$, what is the range?

x → f(x)

$2(-2)^2 - 8 = 0$

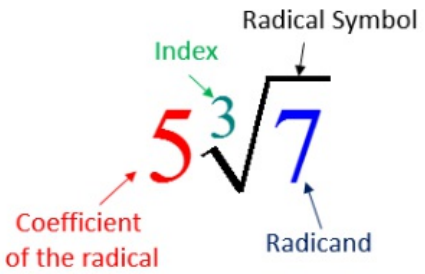
$2(3)^2 - 8 = 10$

$2(5)^2 - 8 = 42$

$\{0, 10, 42\}$

Main Ideas/Questions	Notes
What is a "Radical"?	commonly referred to as the square root symbol.

Parts of a Radical



If the index is not shown, it is implied to be 2.
Like radicals have the same radicand and index.

$\pm\sqrt{4} = +2$ OR -2

Simplifying Perfect Square Root Radicals		
	1. $\sqrt{4} = 2$	2. $\sqrt{81} = 9$
	3. $\sqrt{256} = 16$	4. $\sqrt{121} = 11$
	5. $\sqrt{324} = 18$	6. $\sqrt{1} = 1$
	7. $\sqrt{\frac{64}{81}} = \frac{\sqrt{64}}{\sqrt{81}} = \frac{8}{9}$	8. $\sqrt{\frac{1}{16}} = \frac{\sqrt{1}}{\sqrt{16}} = \frac{1}{4}$
	9. $\sqrt{\frac{9}{100}} = \frac{\sqrt{9}}{\sqrt{100}} = \frac{3}{10}$	10. $\sqrt{\frac{25}{49}} = \frac{\sqrt{25}}{\sqrt{49}} = \frac{5}{7}$

Simplifying Non-Perfect Square Root Radicals

To simplify non-perfect square roots,
you need to know at least your first 10 perfect square numbers:

1, 4, 9, 16, 25, 36, 49, 64, 81, 100,
121, 144, 169, 196, 225

(Find the ***greatest perfect square*** that goes into the radical)

11. $\sqrt{24}$

$\sqrt{4 \cdot 6}$

$\sqrt{4} \cdot \sqrt{6}$

$2\sqrt{6}$

12. $\sqrt{48}$

$\sqrt{16 \cdot 3}$

$\sqrt{16} \cdot \sqrt{3}$

$4\sqrt{3}$

13. $\sqrt{72}$

$\sqrt{36 \cdot 2}$

$\sqrt{36} \cdot \sqrt{2}$

$6\sqrt{2}$

14. $\sqrt{90}$

$\sqrt{9 \cdot 10}$

$\sqrt{9} \cdot \sqrt{10}$

$3\sqrt{10}$

15. $\sqrt{175}$

$\sqrt{25 \cdot 7}$

$\sqrt{25} \cdot \sqrt{7}$

$5\sqrt{7}$

16. $\sqrt{162}$

$\sqrt{81 \cdot 2}$

$\sqrt{81} \cdot \sqrt{2}$ $9\sqrt{2}$

17. $\sqrt{117}$

18. $\sqrt{245}$

21. $\sqrt{63}$

22. $\sqrt{216}$

$\sqrt{150}$

$\sqrt{25 \cdot 6}$

$\sqrt{25} \cdot \sqrt{6}$

$5\sqrt{6}$

$15\sqrt{12}$

$\sqrt{4 \cdot 3}$

$\sqrt{4} \cdot \sqrt{3}$

$15 \cdot 2\sqrt{3}$

$30\sqrt{3}$