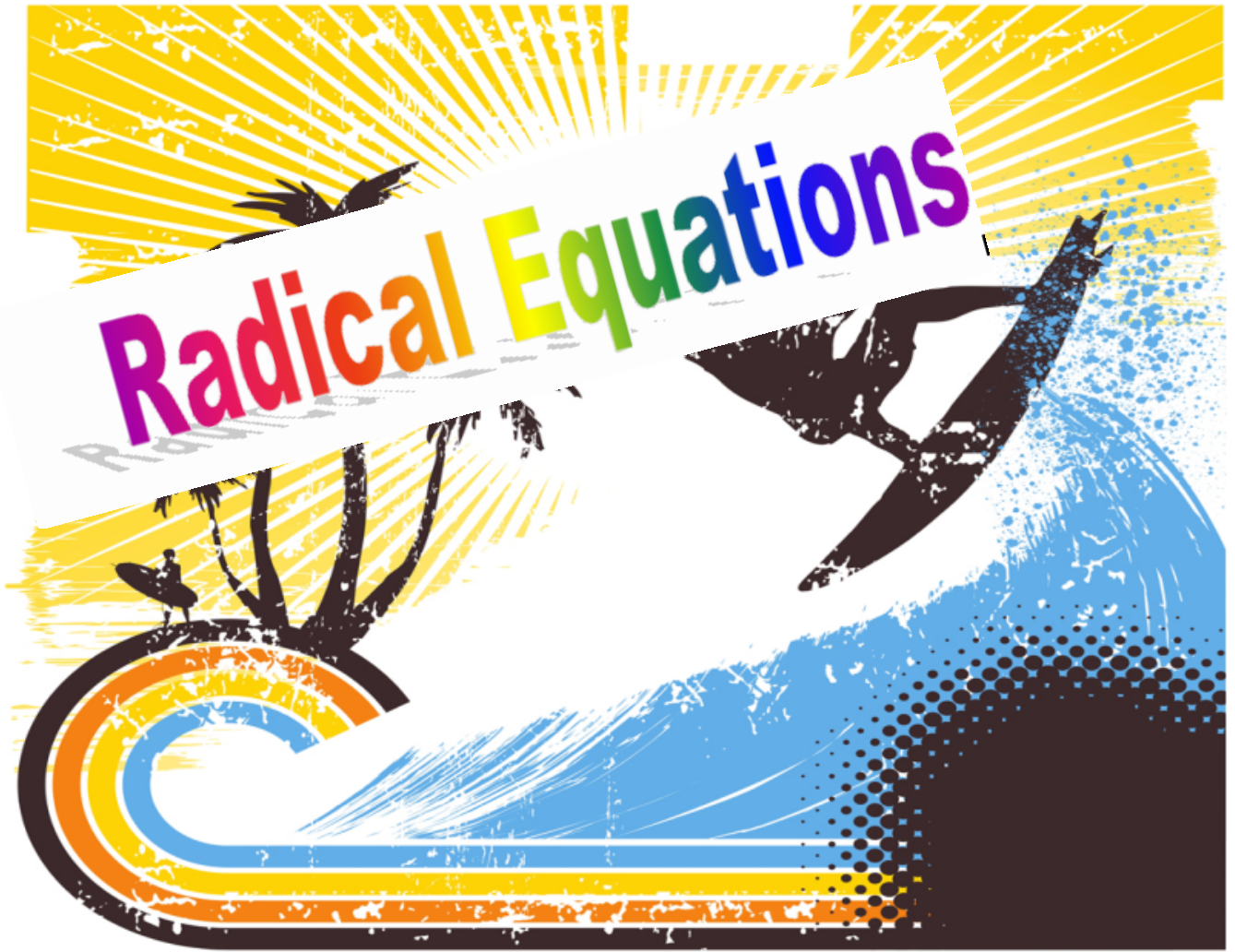


Radical Equations



How do you solve a radical equation?



I hope she isn't asking me!



I can tell you!



Solving radical equations:

1. Isolate the radical.
Get the radical alone on one side.
2. Eliminate the radical.
Square both sides.
3. Solve for the variable.

$$(\sqrt{3x})^2 = (6)^2$$

$$\frac{3x}{3} = \frac{36}{3}$$

$$x = 12$$



Solving radical equations:

1. Isolate the radical.
Get the radical alone on one side.
2. Eliminate the radical.
Square both sides.
3. Solve for the variable.

$$\sqrt{2x} + 3 = 5 - 3$$

$(\sqrt{2x})^2 = (2)^2$

$$\frac{2x}{2} = \frac{4}{2}$$
$$x = 2$$



Solving radical equations:

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$$5\sqrt{2x} - 10 = 30 + 10$$

$$\frac{5\sqrt{2x}}{5} = \frac{40}{5}$$
$$(\sqrt{2x})^2 = (8)^2$$

$$\frac{2x}{2} = \frac{64}{2}$$
$$x = 32$$

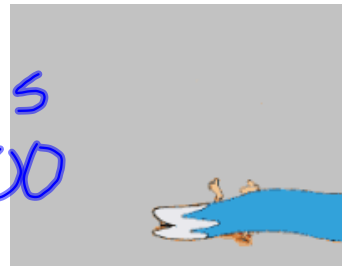
$$\left(\sqrt{\frac{k}{5}}\right)^2 = 60^2$$

$$\frac{k \times 5}{5} = 3600 \times 5$$

$$k = 18000$$

$$\frac{k}{5} = \frac{3600}{1}$$

$$k = 18000$$



Solving radical equations:

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$$6\sqrt{\frac{t}{7} + 4} = 22 - 4$$



$$\frac{6\sqrt{\frac{t}{7} + 4}}{6} = \frac{18}{6}$$

$$\begin{aligned} \left(\sqrt{\frac{t}{7} + 4}\right)^2 &= 3^2 \\ \frac{t}{7} + 4 &= 9 \\ \frac{t}{7} &= 5 \\ t &= 35 \end{aligned}$$

Solving radical equations:

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Square both sides.
3. Solve for the variable.

$$\frac{3\sqrt{m+5}}{3} = \frac{24}{3}$$

$$(\sqrt{m+5})^2 = (8)^2$$

$$m+5 = 64-5$$

$$m = 59$$



Solving radical equations:

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Get the radical alone on one side.
2. Eliminate the radical.
Square both sides.
3. Solve for the variable.

Classwork /Homework

