

7/12 Algebra 1 - Downing

Ballwork

$$\begin{aligned}
 1) \quad & 3x - 2(x-4) = 4x - 10 \\
 & 3x - 2x + 8 = 4x - 10 \\
 & 1x + 8 = 4x - 10 \\
 & \begin{array}{r} 1x + 8 \\ -4x \quad \quad \quad \\ \hline -3x + 8 = -10 \\ -8 \quad \quad \quad \quad \quad \\ \hline -3x = -18 \\ \frac{-3x}{-3} = \frac{-18}{-3} \quad \boxed{x=6} \end{array}
 \end{aligned}$$

2) What does your 5th test need to be at least 90% in the class if your first 4 tests were: 89, 95, 75, 83

$$\frac{89 + 95 + 75 + 83 + x}{5} \geq 90$$

$$5) \quad \frac{342 + x}{5} \geq 90(5)$$

$$\begin{aligned}
 \frac{342 + x}{5} & \geq 450 \\
 -342 \quad \quad \quad & \quad \quad \quad -342 \\
 \hline & \quad \quad \quad x \geq 108\%
 \end{aligned}$$

2.5 C - Simplifying Radicals

A number that is multiplied by itself to form a product is called a square root of that product. The operations of squaring and finding a square root are inverse operations. (opposite)

1 · 1 = 1² = 1 ← Perfect Squares √1 = 1

2 · 2 = 2² = 4 √4 = 2

3 · 3 = 3² = 9 √9 = 3

4 · 4 = 4² = 16 √16 = 4

5 · 5 = 5² = 25 √25 = 5

6 · 6 = 6² = 36 √36 = 6

7 · 7 = 7² = 49 √49 = 7

8 · 8 = 8² = 64 √64 = 8

9 · 9 = 9² = 81 √81 = 9

10 · 10 = 10² = 100 √100 = 10

The radical symbol √, is used to represent square roots. Positive real numbers have two square roots.

Ex) (-1)(-1) = 1

√1 = ±1

* Regular numbers multiply and divide well with regular numbers. Square roots multiply and divide well with square roots. They DON'T multiply + divide with each other.

Ex) $\frac{4}{2} = 2$ $3 \cdot 5 = 15$ $5 \cdot \sqrt{7} = 5\sqrt{7}$

$\frac{\sqrt{12}}{\sqrt{2}} = \sqrt{6}$ $\sqrt{3} \cdot \sqrt{7} = \sqrt{21}$ $\frac{2 \cdot 10\sqrt{30}}{5} = 2\sqrt{30}$

* Simplified radical form is when:

→ there are no perfect square factors under the radical.

→ No radicals are in the denominator

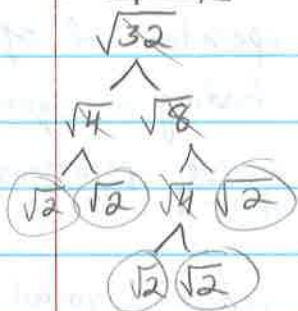
$$\sqrt{3} \cdot \sqrt{3} = \sqrt{9} = 3 \quad \rightarrow (\sqrt{3})^2 = 3$$

$$\sqrt{5} \cdot \sqrt{5} = \sqrt{25} = 5$$

$$\sqrt{8} \cdot \sqrt{8} = \sqrt{64} = 8$$

$$\sqrt{396} \cdot \sqrt{396} = 396$$

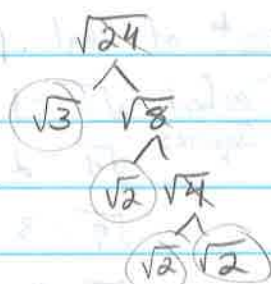
Simplify



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

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

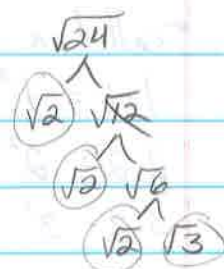
$$\boxed{4\sqrt{2}}$$



$$\sqrt{3} \cdot \sqrt{2} \cdot \sqrt{2} \cdot \sqrt{2}$$

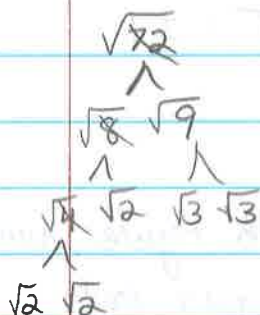
$$\sqrt{3} \cdot \sqrt{2} \cdot 2$$

$$\boxed{2\sqrt{6}}$$



$$\sqrt{2} \cdot \sqrt{2} \cdot \sqrt{2} \cdot \sqrt{3}$$

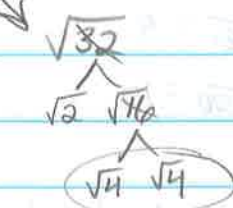
$$\boxed{2\sqrt{6}}$$



$$\sqrt{2} \cdot \sqrt{2} \cdot \sqrt{2} \cdot \sqrt{3} \cdot \sqrt{3}$$

$$2 \cdot 3$$

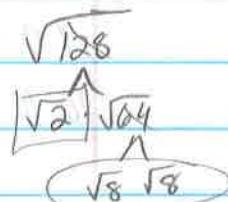
$$\boxed{6\sqrt{2}}$$



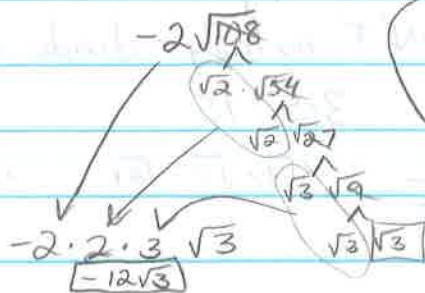
$$\boxed{4\sqrt{2}}$$



$$\boxed{15}$$



$$\boxed{8\sqrt{2}}$$



$$-2 \cdot 2 \cdot 3 \cdot \sqrt{3}$$

$$\boxed{-12\sqrt{3}}$$

HW-WS 2.5C
#1-6 only