

# Warmup

# Simplify

①  $4\sqrt{2}(-3\sqrt{6} + 2\sqrt{3})$

$4\sqrt{2}(-3\sqrt{6}) + 4\sqrt{2}(2\sqrt{3})$

$-12\sqrt{12} + 8\sqrt{6}$



$8\sqrt{6} - 24\sqrt{3}$   
OR  
 $-24\sqrt{3} + 8\sqrt{6}$

②  $-12\sqrt{48x^2y^3}$



$-12 \cdot 2 \cdot 2 \cdot y \cdot \sqrt{3y}$

$-48xy\sqrt{3y}$

Module 0.7B

Cumulative Radicals

Name:

Simplify the following radicals. Be sure you SHOW YOUR WORK!

7)  $5\sqrt{75}$

⑧  $-4\sqrt{490}$

1)  $-\sqrt{28x^4}$

①  $-\sqrt{28x^4}$

4)  $2\sqrt{50ab^5}$

2)  $5\sqrt{ab^5}$

8)  $-4\sqrt{490}$

④  $9 \times 25$   
77

2)  $\sqrt{16xy^2}$

②  $2 \times 7$   
27

5)  $8\sqrt{300a^4b^6}$

2.5  $b^2 \sqrt{2ab}$   
10  $b^2 \sqrt{2ab}$

9)  $\sqrt{125}$

5  $\sqrt{5}$   
55

3)  $-\sqrt{20xy^2}$

②  $2 \times 5$   
49

6)  $5\sqrt{98a^{20}b^3}$

2  $\sqrt{7}$   
77  
35  $a^9 b \sqrt{2b}$   
57  $a^{10} b \sqrt{2b}$

7  $\cdot 4 \sqrt{10}$   
 $-28 \sqrt{10}$

$-2y \sqrt{5x}$

10)  $5\sqrt{2} + 8\sqrt{5} - 8\sqrt{2}$

$-3\sqrt{2} + 8\sqrt{5}$

11)  $-\sqrt{3}(\sqrt{8} - 3\sqrt{15})$

12)  $-\sqrt{12} - 5\sqrt{3} + \sqrt{75}$

2  $\sqrt{3}$   
23  
 $2\sqrt{3} - 5\sqrt{3} + 2$   
 $-3\sqrt{3} + 2$

13)  $-\sqrt{45} + 2\sqrt{45} - 9\sqrt{3}$

3  $\sqrt{3}$   
55  
33  
 $-4\sqrt{3} + 6\sqrt{5}$   
2.3  $\sqrt{5}$

14)  $(\sqrt{2}+8)(\sqrt{2}+3)$

$\sqrt{2}$	8
$\sqrt{2}$	$\sqrt{4}$ $8\sqrt{2}$
3	$3\sqrt{2}$ 24

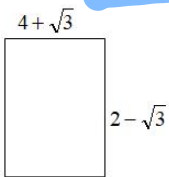
$1\sqrt{2} + 8\sqrt{2} + 24$   
 $11\sqrt{2} + 24$   
 $24 + 11\sqrt{2}$

15)  $(2\sqrt{7}+4)(5\sqrt{7}-11)$

$5\sqrt{3} + 6\sqrt{5} - 9\sqrt{3}$

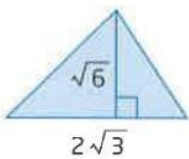
Read the directions for each. Show all your work!

16) Find the perimeter for the following rectangle.



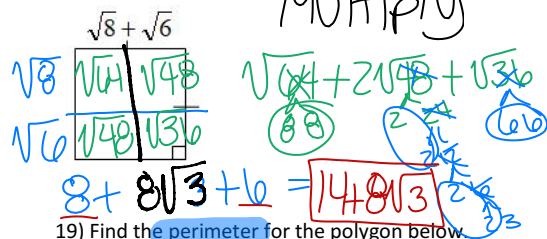
ADD

18) Find the area for the triangle provided.



Multiply  
 $\frac{1}{2}bh$

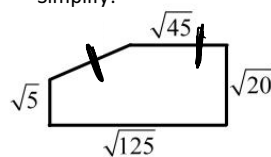
17) Find the area for the square below.



Multiply

$8 + 8\sqrt{3} + 6 = 14 + 8\sqrt{3}$

19) Find the perimeter for the polygon below.



Simplify!

ADD

7)  $5\sqrt{75}$   
 $\sqrt{5 \cdot 15}$   
 $\sqrt{5 \cdot 3 \cdot 5}$

$5 \cdot 5\sqrt{3}$   
 $25\sqrt{3}$

2)  $\sqrt{xy^2}$   
 $\sqrt{2 \cdot 2 \cdot x \cdot y \cdot y}$   
 $2y\sqrt{x}$

5)  $8\sqrt{300a^4b^6}$   
 $\sqrt{3 \cdot 100 \cdot a \cdot a \cdot a \cdot a \cdot b \cdot b \cdot b \cdot b \cdot b \cdot b}$   
 $\sqrt{2 \cdot 2 \cdot 5 \cdot 5 \cdot a \cdot a \cdot b \cdot b \cdot b \cdot b}$

$2 \cdot 2 \cdot y \sqrt{x}$   
 $4y\sqrt{x}$

$8 \cdot 2 \cdot 5 \cdot a \cdot a \cdot b \cdot b \cdot b \sqrt{3}$   
 $80a^2b^3\sqrt{3}$

11)  $\sqrt{3}(\sqrt{8} - 3\sqrt{5})$   
 $\sqrt{3}\sqrt{8} - \sqrt{3}(3\sqrt{5})$   
 $\sqrt{24} - 3\sqrt{45}$   
 $2\sqrt{6} - 9\sqrt{5}$

15)  $(2\sqrt{7} + 4)(5\sqrt{7} - 11)$

$-2\sqrt{7} + 26$

	$2\sqrt{7}$	$4$
$5\sqrt{7}$	<del><math>10\sqrt{49}</math></del>	$20\sqrt{7}$
	$70$	
$-11$	<del><math>-22\sqrt{7}</math></del>	<del><math>-44</math></del>

16) Perimeter  
 $4 + \sqrt{3}$   
 $2 - \sqrt{3}$   
 $4 + \sqrt{3}$   
 $2 - \sqrt{3}$   
 $12$

~~$4 + \sqrt{3}$~~   
 ~~$2 - \sqrt{3}$~~   
 ~~$4 + \sqrt{3}$~~   
 ~~$2 - \sqrt{3}$~~

18)  $\frac{1}{2}bh$   
 $\frac{1}{2}(2\sqrt{3})(\sqrt{6})$   
 $(\sqrt{3})(\sqrt{6}) = \sqrt{18}$   
 $3\sqrt{2}$

19)  $\sqrt{5} + \sqrt{45} + \sqrt{45} + \sqrt{20} + \sqrt{125}$   
 $14\sqrt{5}$