

NAME: \_\_\_\_\_

*P.I. A.N.3: Perform the four arithmetic operations using like and unlike radical terms and express the result in simplest form*

Simplify:

1.  $\sqrt{7} \cdot \sqrt{35}$

- [A]  $49\sqrt{5}$     [B] 245    [C]  $7\sqrt{5}$     [D] 7

2.  $\sqrt{5} \cdot \sqrt{15}$

- [A] 5    [B]  $25\sqrt{3}$     [C] 75    [D]  $5\sqrt{3}$

3.  $\sqrt{11} \cdot \sqrt{22}$

- [A]  $121\sqrt{2}$     [B] 242  
[C]  $11\sqrt{2}$     [D] 11

4.  $\sqrt{3} \cdot \sqrt{15}$

- [A]  $3\sqrt{5}$     [B] 3    [C]  $9\sqrt{5}$     [D] 45

5. Find the product and completely simplify the radical expression  $\sqrt{12} \cdot \sqrt{30}$ .

6. Find the product and completely simplify the radical expression  $\sqrt{10} \cdot \sqrt{12}$ .

7. Find the product and completely simplify the radical expression  $\sqrt{10} \cdot \sqrt{60}$ .

8. Find the product and completely simplify the radical expression  $\sqrt{60} \cdot \sqrt{30}$ .

9. Find two pairs of integers  $a$  and  $b$  such that  $\sqrt{a} \cdot \sqrt{b} = 3\sqrt{2}$ .

10. Aaron simplified  $\sqrt{14} \cdot \sqrt{12}$  and got 12.96. Alison simplified the same expression and got  $2\sqrt{42}$ . Use a calculator to determine who got the correct answer.

[1] C

[2] D

[3] C

[4] A

[5]  $6\sqrt{10}$

[6]  $2\sqrt{30}$

[7]  $10\sqrt{6}$

[8]  $30\sqrt{2}$

Answers may vary. Sample:

[9]  $a = 2, b = 9; a = 6, b = 3$

[10] They are both correct since  $2\sqrt{42} \approx 12.96$ .