Name_____

SQUARE ROOTS

Memorize the following perfect squares & square roots:

n	n^2
1	1
2	4
3	9
4	16
5	25
6	36
7	49
8	64

n	n^2
9	81
10	100
11	121
12	144
13	169
14	196
15	225
16	256

n	n^2
17	289
18	324
19	361
20	400
21	441
22	484
23	529
24	576
25	625

EXAMPLES: Find the value of each of the following radical expressions.

1) $\sqrt{25}$ = _____

2) $\sqrt{169}$ = _____

3) $-\sqrt{441}$ = _____

4) $2\sqrt{144}$ = _____

5) $-\sqrt{\dfrac{1}{64}}$ = _____

6) $5\sqrt{\dfrac{169}{225}}$ = _____

The above examples show that calculating the square root of a perfect square produces a *rational* number. Calculating the square root of a number that is not a perfect square, however, produces an *irrational* number; in this case, the radical expression can be <u>simplified</u>.

EXAMPLES: Simplify.

7) $\sqrt{63}$ = _____

8) $\sqrt{98}$ = _____

9) $\sqrt{256}$ = _____

10) $2\sqrt{48}$ = _____

11) $5\sqrt{72}$ = _____

12) $\sqrt{216}$ = _____