

NAME:

Key

DATE:

A2.Q2.BERMELLEMBO: SIMPLIFY RADICAL EXPRESSIONS + IMAGINARY CASES

**DAY EP2
(EXPRESSIONS)**

NOTES

Simplify Each Expression (allow for imaginary numbers if applicable)

$1^2 = 1$	$\sqrt{1} = 1$
$2^2 = 4$	$\sqrt{4} = 2$
$3^2 = 9$	$\sqrt{9} = 3$
$4^2 = 16$	$\sqrt{16} = 4$
$5^2 = 25$	$\sqrt{25} = 5$
$6^2 = 36$	$\sqrt{36} = 6$
$7^2 = 49$	$\sqrt{49} = 7$
$8^2 = 64$	$\sqrt{64} = 8$
$9^2 = 81$	$\sqrt{81} = 9$
$10^2 = 100$	$\sqrt{100} = 10$
$11^2 = 121$	$\sqrt{121} = 11$
$12^2 = 144$	$\sqrt{144} = 12$
$13^2 = 169$	$\sqrt{169} = 13$
$14^2 = 196$	$\sqrt{196} = 14$
$15^2 = 225$	$\sqrt{225} = 15$
Squares	Square Roots

$$\textcircled{1} \sqrt{32} = \sqrt{16} \cdot \sqrt{2} = \boxed{4\sqrt{2}}$$

$$\textcircled{2} \sqrt{75} = \sqrt{25} \cdot \sqrt{3} = \boxed{5\sqrt{3}}$$

$$\textcircled{3} \sqrt{48} = \sqrt{16} \cdot \sqrt{3} = \boxed{4\sqrt{3}}$$

$$\textcircled{4} 2\sqrt{54} = 2\sqrt{9} \cdot \sqrt{6} = 2 \cdot 3\sqrt{6} = \boxed{6\sqrt{6}}$$

$$\textcircled{5} 7\sqrt{600} = 7\sqrt{100} \cdot \sqrt{6} = 7 \cdot 10\sqrt{6} = \boxed{70\sqrt{6}}$$

$$\textcircled{6} 3\sqrt{700} = 3\sqrt{100} \cdot \sqrt{7} = 3 \cdot 10\sqrt{7} = \boxed{30\sqrt{7}}$$

what should I do if I didn't use the
GREATEST Perfect Square?

① Alternative:

$$\sqrt{32} = \sqrt{4} \sqrt{8} = 2\sqrt{8}$$



$\sqrt{8}$ can be broken down more:

$$2\sqrt{8} = 2\sqrt{4} \sqrt{2} = 2 \cdot 2\sqrt{2} = \boxed{4\sqrt{2}}$$

$$\textcircled{7} \sqrt{-8} = \sqrt{4} i \cdot \sqrt{2} = \boxed{2i\sqrt{2}}$$

$$\textcircled{8} \sqrt{-27} = \sqrt{9} i \cdot \sqrt{3} = \boxed{3i\sqrt{3}}$$

$$\textcircled{9} \sqrt{-200} = \sqrt{100} i \cdot \sqrt{2} = \boxed{10i\sqrt{2}}$$

$$\textcircled{10} 3\sqrt{-150} = 3\sqrt{25} i \sqrt{6} = 3 \cdot 5 i \sqrt{6} = \boxed{15i\sqrt{6}}$$

Review from last block:

$$(\textcircled{3-5i})(\textcircled{3+5i})$$

$$9 + \cancel{15i} - \cancel{15i} - 25(i^2)$$

$$9 - 25(-1)$$

$$9 + 25$$

$$\boxed{34}$$

