

NO3B

性質-1 応用

$$\sqrt{a} \times \sqrt{a} = (\sqrt{a})^2 = a \quad \Rightarrow \quad \sqrt{3} \times \sqrt{3} = (\sqrt{3})^2 = 3$$

$$-\sqrt{a} \times -\sqrt{a} = (-\sqrt{a})^2 = a \quad \Rightarrow \quad -\sqrt{7} \times -\sqrt{7} = (-\sqrt{7})^2 = 7$$

$$-\sqrt{a} \times \sqrt{a} = -(\sqrt{a})^2 = -a \quad \Rightarrow \quad -\sqrt{5} \times \sqrt{5} = \boxed{-}(\sqrt{5})^2 = \boxed{-}5$$

マイナスだよ!

例題1

$$\overset{2}{\dot{2}}\sqrt{3} \times \sqrt{3} = \overset{2}{\dot{2}} \times \boxed{3} = 6$$

$$\downarrow$$

$$(\sqrt{3})^2 = \boxed{3}$$

例題2

$$\overset{3}{\dot{3}}\sqrt{2} \times \overset{5}{\dot{5}}\sqrt{2} = \overset{3}{\dot{3}} \times \overset{5}{\dot{5}} \times \boxed{2} = 30$$

$$\downarrow$$

$$(\sqrt{2})^2 = \boxed{2}$$

NO3B

性質-2 応用

$$\textcircled{5} \oplus \sqrt{81} = \oplus \sqrt{9^2} = \oplus 9$$

$$\textcircled{6} \ominus \sqrt{0.0016} = \ominus \sqrt{0.04^2} = \ominus 0.04$$

例題1

$$\overset{2}{\dot{2}}\sqrt{25} = \overset{2}{\dot{2}}\sqrt{5^2} = \overset{2}{\dot{2}} \times \boxed{5} = 10$$

例題2

$$-\overset{7}{\dot{7}}\sqrt{9} = -\overset{7}{\dot{7}}\sqrt{3^2} = -\overset{7}{\dot{7}} \times \boxed{3} = -21$$

NO8 簡単化A, B

ルートの性質-4

$\sqrt{\quad}$ の中の簡単化 \Rightarrow 必ずすること!!

$$\sqrt{a} = \sqrt{\boxed{\circ} \times \boxed{\circ} \times \Delta} = \boxed{\circ} \sqrt{\Delta}$$

$$-\sqrt{a} = -\sqrt{\boxed{\circ} \times \boxed{\circ} \times \bullet \times \bullet \times \Delta} = -\boxed{\circ} \times \bullet \sqrt{\Delta}$$

かけ算

$$\begin{aligned} \sqrt{12} &= \sqrt{\boxed{2 \times 2} \times 3} & \sqrt{180} &= \sqrt{\boxed{2 \times 2} \times \boxed{3 \times 3} \times 5} & \sqrt{60} &= \sqrt{\boxed{2 \times 2} \times 3 \times 5} \\ &= \boxed{2} \sqrt{3} & & \text{かけ算} & & \\ & & & = \boxed{2} \times \boxed{3} \sqrt{5} & & = \boxed{2} \sqrt{3 \times 5} \\ & & & = \boxed{6} \sqrt{5} & & = \boxed{2} \sqrt{15} \end{aligned}$$