**Multiple choices**

|  |  |
| --- | --- |
| **1.** | **Name the property of irrational numbers illustrated by the equation.**$$\sqrt{5}\left(\sqrt{5}+\sqrt{2}\right)=5+\sqrt{10}$$ |
|  | **a.)**  **Associative Property of Addition** | **b.)**  **Distributive Property** |
|  | **c.)**  **Associative Property of Multiplication**  | **d.)**  **Commutative Property of Multiplication** |

|  |  |
| --- | --- |
| **2.** | **Name the property of irrational numbers illustrated by the equation.**$$\sqrt{3}\left(\sqrt{7}×\sqrt{10}\right)=\left(\sqrt{3}×\sqrt{7}\right)\sqrt{10}$$ |
|  | **a.)**  **Associative Property of Addition** | **b.) Commutative Property of Multiplication**  |
|  | **c.) Associative Property of Multiplication**  | **d.) Distributive Property** |

|  |  |
| --- | --- |
| **3.** | **The** $\sqrt{21} $**is between which two integers?** |
|  | **a.)** $3 and 7$ | **b.)** $9 and 12$ |
|  | **c.)** $ 10 and 11$ | **d.)** $7 and 14$ |

**Solve each expression.** **Identify whether the answer is rational or irrational.**

|  |  |
| --- | --- |
| **4.**  | **If** $x=\sqrt{5} $ **and**$ y=16$ **, what is the value of** $ 2x^{2}-3y-\sqrt{y}?$  |
|  |  |
| **5.**  | **If** $x=15 $ **and**$ y=\sqrt{6}$ **, what is the value of** $x y^{2}-\left(3y+\sqrt{x}\right)?$  |
|  |  |

**ANSWERS**

**Multiple choices**

|  |  |
| --- | --- |
| **1.** | **Name the property of irrational numbers illustrated by the equation.**$$\sqrt{5}\left(\sqrt{5}+\sqrt{2}\right)=5+\sqrt{10}$$ |
|  | **a.)**  **Associative Property of Addition** | **b.)**  **Distributive Property** |
|  | **c.)**  **Associative Property of Multiplication**  | **d.)**  **Commutative Property of Multiplication** |

|  |  |
| --- | --- |
| **2.** | **Name the property of irrational numbers illustrated by the equation.**$$\sqrt{3}\left(\sqrt{7}×\sqrt{10}\right)=\left(\sqrt{3}×\sqrt{7}\right)\sqrt{10}$$ |
|  | **a.)**  **Associative Property of Addition** | **b.) Commutative Property of Multiplication**  |
|  | **c.) Associative Property of Multiplication**  | **d.) Distributive Property** |

|  |  |
| --- | --- |
| **3.** | **The** $\sqrt{21} $**is between which two integers?** |
|  | **a.)** $3 and 7$ | **b.)** $9 and 12$ |
|  | **c.)** $ 10 and 11$ | **d.)** $7 and 14$ |

**Solve each expression. Identify whether the answer is rational or irrational.**

|  |  |
| --- | --- |
| **4.**  | **If** $x=\sqrt{5} $ **and**$ y=16$ **, what is the value of** $ 2x^{2}-3y-\sqrt{y}?$  |
|  | $$x=\sqrt{5}$$$$y=16$$$$ 2x^{2}-3y-\sqrt{y}=$$$$=2×\left(\sqrt{5}\right)^{2}-3×16-\sqrt{16}=$$$$=2×5-3×16-4=$$$$=10-48-4=$$$$=-38-4=$$$$=-42$$**Rational** |
| **5.**  | **If** $x=15 $ **and**$ y=\sqrt{6}$ **, what is the value of** $x y^{2}-\left(3y+\sqrt{x}\right)?$  |
|  | $$x=15$$$$y=\sqrt{6}$$$$ x y^{2}-\left(3y+\sqrt{x}\right)=$$$$=15 \left(\sqrt{6}\right)^{2}-\left(3\sqrt{6}+\sqrt{15}\right)=$$$$=15×6-3\sqrt{6}-\sqrt{15}=$$$$=90-3×2.4494….-3.8729…….=$$$$=90-7.3482….-3.8729…=$$$$=82.6518…..-3.8729….$$$$=78.7789…..$$**Irrational** |