

Test Review : Real Numbers

Simplify

$$\textcircled{1} \quad -6 - 10$$

$$\textcircled{2} \quad -4 - (-9)$$

$$\textcircled{3} \quad (-3)(2)(-4)$$

$$\textcircled{4} \quad (-30) \div (-6)$$

Simplify

$$\textcircled{5} \quad 10 + 2[3(4-2)+1] \quad \textcircled{6} \quad 16 \div 8 \cdot 2 + 1$$

Evaluate each expression if $x=2, y=3, w=-2$.

$$\textcircled{7} \quad 4x - y$$

$$\textcircled{8} \quad xy + w^2$$

Simplify using the Distributive Property

$$\textcircled{9} \quad 3w - 6x + 4w + 2x \quad \textcircled{10} \quad 10x - 2(3x - 1)$$

Convert each decimal to a fraction or mixed number.

$$\textcircled{11} \quad 0.\overline{36}$$

$$\textcircled{12} \quad 1.\overline{25}$$

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Simplify using the Laws of Exponents

$$\textcircled{13} \quad 4^3 \cdot 4^6$$

$$\textcircled{14} \quad x^3 \cdot x^4 \cdot x^6$$

$$\textcircled{15} \quad \frac{x^9}{x^6}$$

$$\textcircled{16} \quad (-3m^2x^3)(2mx^4)$$

$$\textcircled{17} \quad \frac{-25x^{10}y^3}{5x^4y^3}$$

$$\textcircled{18} \quad (2m^3n^6)^3$$

$$\textcircled{19} \quad x^{-6} \cdot x^8$$

$$\textcircled{20} \quad \frac{x^{10}}{x^{-4}}$$

Find each square root or cube root

$$\textcircled{21} \quad \sqrt{81}$$

$$\textcircled{22} \quad \sqrt[3]{3 \cdot 8}$$

$$\textcircled{23} \quad \sqrt{\frac{100}{121}}$$

$$\textcircled{24} \quad \sqrt{-25}$$

Solve each equation

$$\textcircled{25} \quad x^2 = 144$$

$$\textcircled{26} \quad -64 = x^3$$

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Write each number in Scientific Notation.

(27) $1,320,000,000$

(28) 0.00000713

Evaluate. Express the answer in Scientific Notation.

(29) $(6 \times 10^3)(4 \times 10^6)$

(30) $\frac{3.6 \times 10^9}{6 \times 10^3}$

Name all the sets the number belongs to...

(31) $\sqrt{2}$

(32) $\sqrt{16}$

(33) -6

(34) 100

Answers:

① -16 ② 5 ③ 24 ④ 5 ⑤ 24 ⑥ 5

⑦ 5

⑧ 10

⑨ $7w - 4x$

⑩ $4x + 2$

⑪ $\frac{9}{25}$

⑫ $1\frac{1}{4}$

⑬ 4^9

⑭ x^{13}

⑮ x^3

⑯ $-6m^3x^7$

⑰ $-5x^6$

⑱ $8m^9n^{18}$

⑲ x^2

⑳ x^{14}

㉑ 9

㉒ 6

㉓ $\frac{10}{11}$

㉔ no real root

㉕ $x = \pm 12$

㉖ $x = -4$

㉗ 1.32×10^9

㉘ 7.13×10^{-7}

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Answers:

㉙ 2.4×10^{10}

㉚ 6×10^5

㉛ irrational, real

㉜ natural, whole, integer, rational, real

㉝ integer, rational, real

㉞ natural, whole, integer, rational, real