

Warm-ups: Simplify.

① $5^{-2} \frac{1}{5^2} = \frac{1}{25}$

② $7\sqrt{11} - \sqrt{11} = 6\sqrt{11}$

③ $(n^5)^4 = n^{20}$

④ $\frac{4}{\sqrt{20}} \cdot \frac{2\sqrt{5}}{5}$
 $\sqrt{4 \cdot 5} = \frac{4}{2\sqrt{5}} = \frac{2}{\sqrt{5}} \cdot \frac{\sqrt{5}}{\sqrt{5}} = \frac{2\sqrt{5}}{5}$

⑤ $\frac{x^2}{x^6} = \frac{1}{x^4}$ ~~xy~~
~~xxxxxx~~

⑥ $6^{-4} \cdot 6^{10} \cdot 6^0 = 6^6$

⑦ $5x^5 \cdot 3x^7 = 15x^{12}$

⑧ $9x^{-3}y^2 \sqrt{\frac{9y^2}{x^3}}$

⑨ $(4m^2)^3 = 4^3 m^6 = 64m^6$

⑩ $-\sqrt{121} = -11$
 $(4m^2)(4m^2)(4m^2)$

⑪ $\frac{3}{\sqrt{5}} \cdot \frac{\sqrt{5}}{\sqrt{5}} = \frac{3\sqrt{5}}{\sqrt{25}} = \frac{3\sqrt{5}}{5}$

⑫ $\sin 54^\circ$ (Round to ten-thousandth)
 0.8090 4 decimals

① Write as a decimal. $6 \cdot 10^{-4}$

② Write the number in scientific notation.
975,000

③ $(6 \times 10^3)(7 \times 10^5)$

④ $(2x-3)(2x-5)$

⑤ $(3x+1)(5x+2)$

⑥ Put in standard form.
Name the polynomial based on its
degree and number of terms.
 $5 - 6x^2 + 5x + x^2$

⑦ Factor. $m^2 - 81$

⑧ Factor. $m^2 - 81$

⑧ $w^2 + 11w + 63$ (Factor)

⑨ $x^2 - 2x - 24$ (Factor)

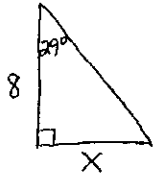
⑩ Simplify. $(3x-2)^2$

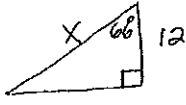
⑪ Solve. $x^2 - 12x + 35 = 0$
by Factoring.

⑫ Solve. $7x^2 = 10$

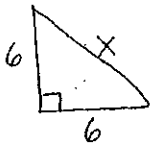
⑬ Solve using the zero product property.
 $(3x-6)(4x+6) = 0$

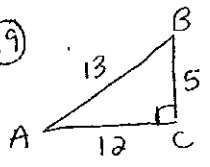
(14) Simplify $\sqrt{\frac{5}{144}}$

(15) 

(16) 

(17) Find the range.
data: 32, 39, 31, 29, 35, 42, 26, 40

(18) 

(19)  Find the trig ratio.
Find $\cos A$.

Which set(s) of numbers do the following #'s belong to?

choices: $\left\{ \begin{array}{l} \text{Rational} \\ \text{Irrational} \\ \text{Integers} \\ \text{Whole } 0, 1, 2 \\ \text{Natural } 1, 2, 3 \end{array} \right.$

a) $\sqrt{7}$ irrational
 b) -20 integers, rational
 c) $\frac{3}{5}$ rational

(21) Write the equation in point-slope form given $(-3, 5)$ and $m = -4$
 $y - 5 = -4(x + 3)$

(22) Find the constant of variation.
 $4x + 6y = 0$ $y = -\frac{2}{3}x$ $k = -\frac{2}{3}$
 $6y = -4x$

(23) Write an equation of the direct variation that includes the point $(12, -6)$

(24) Simplify $\sqrt{169}$

(25) Solve by substitution. (x, y)

$(2, -9) \left\{ \begin{array}{l} 8x + 2y = -2 \\ y = -5x + 1 \end{array} \right.$

$8x + 2(-5x + 1) = -2$
 $8x - 10x + 2 = -2$
 $-2x + 2 = -2$
 $-2x = -4$
 $x = 2$

$y = -5(2) + 1$
 $y = -10 + 1$
 $y = -9$