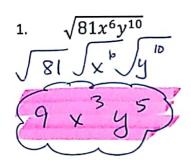


Ch 6 Test

Simplify each radical expression.

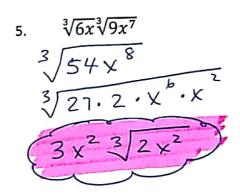


2.
$$\sqrt[3]{27y^{12}}$$
 $\sqrt[3]{27}$
 $\sqrt[3]{4}$

3.
$$\sqrt[4]{625x^{16}}$$
 $\sqrt[4]{625}$
 $\sqrt[4]{X}$

Multiply and simplify.

4.
$$\sqrt{3x^{7}}\sqrt{21x}$$
 $\sqrt{3:210x^{70}x}$
 $\sqrt{63.x^{8}}$
 $\sqrt{9\sqrt{7}\sqrt{x}}$
 $\sqrt{3x^{7}}\sqrt{21x}$



Rationalize each denominator. Simplify your answer

6.
$$\frac{\sqrt{x}}{\sqrt{11}} \neq \frac{\sqrt{11}}{\sqrt{11}}$$

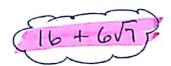


7.
$$\frac{\sqrt[3]{7}}{\sqrt[3]{3x^2}}$$
, $\frac{\sqrt[3]{3x^2}}{\sqrt[3]{3x^2}}$, $\frac{\sqrt[3]{3x^2}}{\sqrt[3]{3x^2}}$

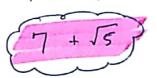
$$\frac{3\sqrt{83}x^4}{3x^2} = \frac{x^3\sqrt{63}x}{3x^2}$$

Multiply. Express the product in polynomial form.

8.
$$(3+\sqrt{7})^2$$



9.
$$(4+\sqrt{5})(3-\sqrt{5})$$



Simplify.

$$(81^{1/4})^3$$
 $(3)^3$

11.
$$25^{\frac{3}{2}}$$
 $(25^{\frac{1}{2}})^3$

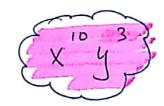
Write each expression in simplest form.

12.
$$\left(x^{\frac{5}{2}}\right)^4$$



13.
$$\left(x^{\frac{5}{6}}y^{\frac{1}{4}}\right)^{12}$$

$$\chi \qquad \chi \qquad \chi \qquad \qquad (\frac{5}{4})(12)$$



Solve.

14.
$$\sqrt{2x+5} = 11$$

$$2 \times +5 = 121$$

$$2 \times = 116$$

$$2 \times = 58$$

15.
$$(x-7)^{\frac{2}{3}} = 36$$

$$\left[(\chi-7)^{\frac{7}{3}} \right]^{\frac{3}{2}} = (36)^{\frac{3}{2}}$$

$$\chi-7 = 216$$

Let f(x) = x + 7 and g(x) = 3 - x. Perform the operations, simplify, & state any restrictions

16.
$$(f-g)(x)$$

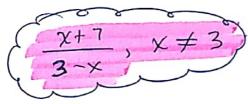
$$\chi + \gamma - 3 + \chi$$

$$2 + 4 + 4$$

17.
$$(f \cdot g)(x) (x+7)(3-x)$$

 $3 \times - \times^2 + 2 \times - 7 \times$
 $- \times^2 - 4 \times + 2 \times 7 \times - 7 \times$

18.
$$\left(\frac{f}{g}\right)(x) \xrightarrow{\times +7}$$



Let f(x) = 5x - 1 and $g(x) = x^2 + 4$. Find each value or expression.

19.
$$(f \circ g)(x)$$

 $5(\chi^2 + 4) - (1)$
 $5\chi^2 + 20 - (1)$

