Summer Math Supplement

Date_____ Period____

Solve the system of equations.

28) $-5x + 10y = 10$
$-x - 4y = -22$

A) $(4, -6)$ B) $(1, 6)$
C) $(6, 4)$ D) $(4, 6)$

Solve each equation. Remember to check for extraneous solutions.

29) $x = \sqrt{110 - x}$

A) $\{-10\}$ B) $\{-10, 2\}$
C) $\{10, 2\}$ D) $\{10\}$

Solve each equation.

30) $r^2 = -7r + 8$

A) $\{-8, 1\}$ B) $\{-6, -1\}$
C) $\{-4, 7\}$ D) $\{-3, -2\}$

Simplify.

31) $\dfrac{3}{\sqrt{5} - \sqrt{3}}$

A) $\dfrac{5 + 3\sqrt{2}}{4}$ B) $\dfrac{3\sqrt{5} + 3\sqrt{3}}{2}$
C) $\dfrac{1 - \sqrt{3}}{3}$ D) $\dfrac{\sqrt{5} - \sqrt{3}}{3}$

32) $\dfrac{2\sqrt{3}}{\sqrt{15}}$

A) $\dfrac{4\sqrt{10}}{5}$ B) $\dfrac{\sqrt{3}}{2}$
C) $\dfrac{2\sqrt{5}}{5}$ D) $\dfrac{2\sqrt{6}}{3}$

Simplify each expression.

33) $\dfrac{8p}{24p^2 - 80p} \div \dfrac{1}{24p^3 - 80p^2}$

A) $\dfrac{p+8}{p-9}$ B) $8p^2$

C) $\dfrac{p-10}{9p(p+9)}$ D) $\dfrac{p+8}{p+6}$

34) $\dfrac{n+6}{n+3} \div \dfrac{1}{3n+9}$

A) $\dfrac{n-8}{10n^2}$ B) $\dfrac{8n^2}{n-3}$

C) $5n$ D) $3(n+6)$

Divide.

35) $(8x^2 + 27x - 13) \div (x+4)$

A) $8x - 5 + \dfrac{7}{x+4}$

B) $8x - 3 + \dfrac{3}{x+4}$

C) $8x - \dfrac{1}{x+4}$

D) $8x - 2 + \dfrac{2}{x+4}$

36) $(2r^4 + 2r^3 + 2r^2) \div 6r^3$

A) $2r^3 + 5r^2 + \dfrac{r}{3}$

B) $\dfrac{1}{2} + \dfrac{5}{8r} + \dfrac{1}{2r^2}$

C) $\dfrac{r}{3} + \dfrac{1}{3} + \dfrac{1}{3r}$

D) $\dfrac{r^2}{8} + 4r + \dfrac{1}{8}$

37) $(45x^3 - 63x^2 - 22x + 24) \div (5x - 2)$

A) $9x^2 - 9x - 8 + \frac{17}{5x - 2}$

B) $9x^2 - 9x - 7 + \frac{14}{5x - 2}$

C) $9x^2 - 9x - 6 + \frac{13}{5x - 2}$

D) $9x^2 - 9x - 8 + \frac{8}{5x - 2}$

Simplify each expression.

38) $\frac{n + 1}{8n^2 - 35n + 12} - \frac{7}{3n^3}$

39) $\frac{6}{4r} + \frac{r + 8}{14r^2 + 10r - 4}$

Solve each equation. Remember to check for extraneous solutions.

40) $\frac{1}{4m^2} = \frac{1}{2m^2} + \frac{m + 6}{2m^2}$

41) $\frac{1}{4r} + \frac{1}{4r^2} = \frac{r + 4}{2r^2}$