Solve the equation. $(x + 6)(x - 7)(x - 17) = 0$

- ○ {0, -6, 7}
- ○ { -6, 7, 17}
- ◉ { -6, 7, -17}
- ○ { 6, 7, 17}

Question 2 of 40

Find all numbers not in the domain of the function.

$$f(x) = \frac{x - 1}{7x + 8}$$

- ◉ $-\frac{8}{7}, 1$
- ○ None
- ○ $\frac{8}{7}$
- ○ $-\frac{8}{7}$

Question 3 of 40

$12x^2 + 17x + 6$

Express the rational expression in lowest terms

$$\frac{4x + 3}{}$$

- ○ $\frac{4x}{3x + 2}$
- ◉ $\frac{4x + 3}{3x + 17}$
- ○ $\frac{4x + 3}{12x^2 + 17x + 6}$
- ○ $\frac{1}{3x + 2}$

Question 4 of 40

Perform the indicated operation and express in lowest terms.

$$\frac{(2x-5)(x+1)}{(x+8)(x-3)} \div \frac{(x+1)(3x+5)}{(x+8)(x-3)}$$

- ○ $\frac{2x-5}{3x+5}$
- ○ $\frac{2}{3}$
- ◉ $\frac{x-8}{x+2}$
- ○ $-\frac{2x-5}{3x+5}$

Question 8 of 40

Simplify the root.

$\sqrt{x^{14}}$

- $|x^7|$
- x^7
- $-x^7$
- $-|x^7|$

Question 9 of 40

Solve the problem.

The radius of a sphere is given by the formula $r = \sqrt{\frac{S}{4\pi}}$, where S is the surface area. If the surface area is 16,638 square inches, what is the radius? Use 3.14 for π, and round your answer to the nearest tenth of an inch.

- 64.5 inches
- 114.3 inches
- 0 inches
- 36.4 inches

Question 10 of 40

Simplify the expression involving rational exponents.

$(-125)^{2/3}$

- 25
- -5
- Not a real number
- -25

Question 5 of 40

$$\frac{m^2 - 9m}{m - 5} + \frac{20}{m - 5}$$

- ○ $m + 4$
- ◉ $\frac{m^2 - 9m + 20}{m - 5}$
- ○ $m - 5$
- ○ $m - 4$

Question 6 of 40

List all numbers that must be rejected as possible solutions, then give the domain using set-notation.

$$\frac{13x + 1}{x - 14} = \frac{8x - 7}{19x - 18}$$

- ○ $14, \frac{18}{19}; \left\{x \mid x \neq 14, \frac{18}{19}\right\}$
- ○ $0, 14, \frac{18}{19}, -\frac{1}{13}, \frac{7}{8}; \left\{x \mid x \neq 0, 14, \frac{18}{19}, -\frac{1}{13}, \frac{7}{8}\right\}$
- ◉ $14, \frac{18}{19}, -\frac{1}{13}, \frac{7}{8}; \left\{x \mid x \neq 14, \frac{18}{19}, -\frac{1}{13}, \frac{7}{8}\right\}$
- ○ None ; {x|x is a real number}

Question 7 of 40

Solve the problem. A jet plane traveling at a constant speed goes 1,200 miles with the wind, then turns around and travels for 1,000 miles against the wind. If the speed of the wind is 50 mph and the total flight took 4 hours, find the speed of the plane.

- ○ 550 mph
- ◉ 605 mph
- ○ 435 mph
- ○ 525 mph