

Unit 8 Mega Quiz Review

Date _____ Period _____

Use the information provided to write the standard form equation of each circle.

1) Center: $(-9, -5)$
Radius: $2\sqrt{5}$

2) Center: $(-14, -13)$
Radius: 1

3) Center: $(14, 12)$
Radius: 2

4) Center: $(-6, -12)$
Radius: $\sqrt{38}$

Simplify each expression.

5) $\frac{1}{5(3r+8)} \cdot \frac{6r(3r+8)}{4}$

6) $\frac{7x^2}{5(x+1)} \cdot \frac{5(x+6)}{7x^2}$

7) $\frac{6a^2(a-1)}{6a^2} \div \frac{(a+9)(a-1)}{6a^2(a+9)}$

8) $\frac{5(x-4)}{8(x-9)} \div \frac{x-4}{x-9}$

$$9) \frac{4m - 6n}{15n} + \frac{m + 2n}{15n}$$

$$10) \frac{x - 5y}{36y^2} - \frac{3x + y}{36y^2}$$

$$11) \frac{2}{5} + \frac{2}{3m^2n}$$

$$12) \frac{3y}{3x^2} - \frac{6}{4}$$

Solve each equation. Remember to check for extraneous solutions.

$$13) \frac{1}{4r} = \frac{1}{2r} - \frac{r - 6}{2r}$$

$$14) \frac{1}{4n} = \frac{3}{2n^2} + \frac{1}{2n}$$

$$15) \frac{1}{k} - 1 = \frac{1}{2k}$$

$$16) \frac{4x + 16}{5x} = \frac{1}{5x} - \frac{1}{5}$$