Algebra Review
No Calculators
Show all work - Circle Answers Name _____

1. Simplify the expression: $\dfrac{y^8(x^5y^{-2})^4}{2x^{-1}}$

2. Simplify the radical expression: $\sqrt{\dfrac{x^{18}}{9}}$

3. Combine into a single reduced fraction: $\dfrac{1}{5(x+h+10)} - \dfrac{1}{5x+10}$

4. Multiply: $2x^5\left(x + \dfrac{1}{8}x^{-9}\right)$

5. Factor: $x^2 - 5x - 36 =$

6. Complete the square for $f(x) = x^2 - 8x + 26$

7. Solve for x: $(x+2)(x+3) = 42$

8. Solve for x: $2\sqrt{x} = x - 24$

9. Find the points of intersection for the graphs of $y = x^2 - 7$ and $y = x + 13$

Answers 1) $\frac{x^{21}}{2}$; 2) $\frac{x^9}{3}$; 3) $-\frac{h}{5(x+2)(h+x+2)} = \frac{-h}{5hx+10h+5x^2+20x+20}$; 4) $2x^6 + \frac{1}{4x^4}$; 5) $(x+4)(x-9)$; 6) $(x-4)^2+10$; 7) $x = -9, 4$; 8) $x = 36$; 9) $(x,y) = \{-4, 9\}, \quad \{5, 18\}$;