NAME _____

MATH 101: FALL 2020	QUIZ 3

You are allowed one page of notes and a calculator. No phones. More than 25pts to earn. Box *your answers for full credit and show work. Thanks!*

Problem 1: (2pts) Find domain in interval notation for $f(x) = \dfrac{2x-3}{x+7}$

Problem 2: (2pts) Simplify $\dfrac{84x^{53}}{2x^{11}}$

Problem 3: (2pts) Simplify $\dfrac{\frac{1}{x}-2}{\frac{1}{x}+3}$

Problem 4: (2pts) Simplify $\dfrac{x^3}{4x+16} \cdot \dfrac{9x+36}{x^2}$

Problem 5: (2pts) Simplify $\dfrac{x^2-16}{2x^2+6x-8} \cdot \dfrac{4x^2-4x}{x-1}$

Problem 6: (2pts) Simplify $\dfrac{3x+25x^4-90x^6}{15x^2}$

Problem 7: (2pts) Simplify $\dfrac{8a^3}{16a^5 - 40a^3 + 2a}$

Problem 8: (2pts) Simplify $\sqrt[3]{-64x^9}$

Problem 9: (2pts) Rewrite the expression as to rationalize the denominator: $\dfrac{8}{3 + \sqrt{7}}$

Problem 10: (2pts) Find the Cartesian form of the complex number $\dfrac{100}{3 + 4i}$

Problem 11: (2pts) Solve $\frac{x}{3} - \frac{x}{7} = 11$

Problem 12: (2pts) Solve $\frac{x+1}{x+2} = \frac{4}{5}$.

Problem 13: (2pts) Solve $\sqrt{5x+19} - 2 = 1$.

Problem 14: (2pts) Solve $x = 8 + \sqrt{x-6}$.