

Name _____

Summer Assignment for Pre-Calculus 2018-19

This assignment will be collected on the first day of the 2018-19 school year. It will count as a major grade in the first quarter.

1. $\frac{3}{5} + \frac{1}{5}$

2. $\frac{4}{6} - \frac{1}{6}$

3. $2 \times \frac{1}{6}$

4. $\frac{3}{4} \times \frac{1}{7}$

5. $\frac{7}{45} \times \frac{9}{10}$

6. $\frac{1}{3} \div \frac{1}{6}$

7. $\frac{3}{4} + \frac{1}{7}$

8. $\frac{2}{5} + \frac{2}{8}$

9. $\frac{7}{25} - \frac{7}{30}$

10. $\frac{3}{20} - \frac{1}{36}$

11. $1\frac{7}{45} \times 3\frac{9}{10}$

12. $2 - \frac{1}{6}$

13. $3\frac{3}{5} - 1\frac{9}{10}$

14. $4\frac{3}{5} \div 1\frac{9}{10}$

15. Four-sevenths of what number is 28?

16. Twenty-seven is what fraction of 135?

17. Fifty-two is what percent of 208?

18. Complete the following table:

Fraction	Decimal	Percent
$\frac{7}{25}$		
	1.32	
		0.4%
$1\frac{1}{125}$		
	0.0068	
		120%
$33\frac{1}{3}$		

Simplify:

19. 10^{-1}

20. z^{-2}

21. $\frac{\sqrt{480}}{\sqrt{2}}$

22. $\frac{1}{z^{-2}}$

23. $49^{1/2}$

24. $4^{3/2}$

25. $x^{1/2}$

26. $3z^2 + 6z^2 + 4z + 5 + 2z$

27. $(a^2)^{-3}(a^4b^2)^{-3}(b^3)^{-2}$

28. $\sqrt{36} \sqrt{25} \sqrt{50}$

29. $\frac{3z^2}{2z}$

30. $\frac{2y^3z^2}{6z}$

31. $(x^4)^{1/2}$

32. $\frac{3x^2yz^{-2}}{-2x^{-3}y^{-2}z^{-3}}$

Expand and simplify

33. $(x-1)(x+1)$

34. $(2x+5)^2$

35. $(3x+4)(y+4)$

Factor Completely

36. $3x^3 - 6x$

37. $9x^2 - 144$

38. $x^2 + x - 12$

39. $x^2 + 3x - 18$

40. $5x^2 + 18x - 8$

41. $4x^2 - 12x + 9$

42. $8x^2 + 17x + 9$

43. $x^3 - 27$

44. Express the following:

- a. $x > 2$ in interval notation
- b. $[2, 8]$ using inequalities
- c. $[-4, 3)$ using a number line

Factor and Simplify

45. $\frac{x^2-9}{2x^2+3x-9} \div \frac{x^2+12x-45}{2x^2-x-3}$

46. Write the quadratic equation.

47. Solve the equation by factoring: $2y^2 + 7y + 3 = 0$

48. Solve using the quadratic equation: $3x^2 + 8x + 1 = 0$

49. A room is 1.5 times longer than it is wide. The perimeter is 80 feet. How wide is the room?

50. Rupert took a trip from Denver to St. Louis, a distance of 1,000 miles. His average speed from Denver to Kansas City was 40 mph, and from Kansas City to St. Louis his average speed was 55 mph. The whole trip took 20 hours. How long did the trip from Kansas City to St. Louis take?