

Math 80 Spring 2019 Practice Test 1

Name:

Please silence your cell phone.

You must show your steps. If you're unsure whether you have enough work, please ask.

1) Make sure to include enough steps so I know you've done the problem, not your calculator.

a) Simplify $(12 - 8)(15 - 6)$.

b) Simplify $24 \div 3(3 + 1)$.

c) Simplify $\frac{(18 - 6)(2)}{18 - 6(2)}$.

d) Simplify $-[(-3)(5)(-3)]$.

e) Simplify $\left(\frac{6}{-3}\right)\left(-\frac{6}{3}\right)\left(\frac{-6}{-3}\right)$.

f) Simplify $\frac{5(-5) + (-3)(-3)}{(-5 + 3)(5 + -3)}$.

g) Simplify $7 - [3 - 3(5 - 9)]$.

h) Simplify $7 - 5(2 - (-8)) + (-5)(3)$.

2) a) Solve $3(x+5) - 4x = 6(x+5) - 12x$.

Check your previous answer.

b) Solve $x + \frac{x}{2} - \frac{1}{4} = \frac{x}{3} + \frac{11}{12}$.

Check your previous answer.

3 Given that $D(t) = 6t + 11$ find;

a) $D(-7)$

b) t if $D(t) = -7$

- 4) Omemee was a town in North Dakota at the Junction of the Great Northern Railway and the Soo Line Railway. Some information about the population of Omemee is to the right.

Years after 1910	Population of Omemee North Dakota
10	210
20	150
30	90

- a) Explain in English what the point $(20, 150)$ is telling you. Be specific.

- b) Use the slope formula to show the value of the slope is -6 and discuss the meaning of the slope.

- c) Show algebraically that the value of b is 270 and discuss the meaning of b .

- d) Using P for the population and t for the number of years after 1910, build the linear function using functional notation.

- e) Using the function answer the question $P(35)$ is asking.

- f) Using the function answer the question $P(t) = 0$ is asking.