

MPM 1DI: *Simplifying & Converting Rationals*

1. Put the following into lowest terms:

a) $\frac{-21}{49}$ b) $\frac{350}{875}$ c) $\frac{-56}{-70}$ d) $-\frac{(-6)}{18}$ e) $-\frac{(-42)}{(-28)}$ f) $-\frac{54}{(-81)}$

2. Compare the following rationals using either $<$ or $>$. (Make equivalent denominators when necessary. If you are still unsure about your answer, CHECK IT AS A **DECIMAL**)

a) $\frac{3}{5}$ $\frac{2}{3}$ b) .01 -1.00 c) -1.25 0.75 d) $\frac{-8}{28}$ $\frac{-3}{7}$ e) $\frac{-27}{24}$ $\frac{-10}{8}$

f) $\frac{15}{6}$ $\frac{56}{16}$ g) $\frac{-75}{35}$ $\frac{-64}{28}$ h) $\frac{-35}{15}$ $\frac{-30}{9}$ i) $\frac{-3}{5}$ -.65

3. Change the following into decimals:

a) $\frac{-3}{5}$ b) $\frac{1}{4}$ c) $\frac{-7}{9}$ d) $\frac{3}{8}$ e) $\frac{7}{-21}$ f) $-\frac{1}{6}$ g) $\frac{7}{11}$ h) $\frac{-320}{50}$

4. Change the following into fractions in lowest terms:

a) -0.625 b) 16.4 c) 0.0625 d) -2.75 e) 4.0

5. Which of the following numbers are irrational?

a) 2.111... b) 4.34568... c) 0 d) $\sqrt{3}$ e) $\sqrt{4}$ f) 8.121221222...

6. In the following sets of rational numbers, reduce first, then put them in order from smallest to largest by making equivalent denominators.

a) $\frac{-5}{10}, \frac{2}{-3}, \frac{-7}{-28}, \frac{-5}{20}, -\frac{12}{16}, -\frac{9}{(-6)}, \frac{10}{-8}, -\left(\frac{-18}{-9}\right)$ b) $\frac{4}{-8}, \frac{-3}{-15}, \frac{-16}{40}, -\frac{19}{-60}, \frac{14}{30}, -\left(\frac{-13}{-20}\right)$

7. In the hockey playoffs one goalie let in 11 goals in 7 games, the other allowed 8 goals in 7 games. Calculate the goals against average to two decimal places for each goalie.

8. a) Simplify $\frac{2}{3} + \frac{5}{6}$ and write the fraction answer as a decimal.

b) Convert the two fractions from above into decimals first and then add them.

Answers:

$$1a) -\frac{3}{7} \quad b) \frac{2}{5} \quad c) \frac{4}{5} \quad d) \frac{1}{3} \quad e) -\frac{3}{2} \quad f) \frac{2}{3}$$

$$2a) < \quad b) > \quad c) < \quad d) > \quad e) >$$

$$f) < \quad g) > \quad h) > \quad i) >$$

$$3a) -0.6 \quad b) 0.25 \quad c) -0.\overline{7} \quad d) 0.375$$

$$e) -0.\overline{3} \quad f) 0.1\overline{6} \quad g) 0.6\overline{3} \quad h) -6.4$$

$$4a) -\frac{5}{8} \quad b) \frac{82}{5} \quad c) \frac{1}{16} \quad d) -\frac{11}{4} \quad e) \frac{4}{1}$$

5. b, d, f are irrational

$$6a) \text{ Smallest to largest: } -\frac{(-18)}{(-9)}, \frac{10}{-8}, -\frac{12}{16}, \frac{2}{-3}, \frac{-5}{10}, \frac{-5}{20}, \frac{-7}{-28}, -\frac{9}{(-6)}$$

$$b) \text{ Smallest to largest: } -\frac{16}{40}, \frac{4}{-8}, \frac{-3}{-15}, -\frac{19}{-60}, -\frac{(-13)}{(-20)}, \frac{14}{30}$$

$$7. \text{ Goalie \#1} = 1.57, \text{ Goalie \#2} = 1.14 \quad 8a) 1.5 \quad b) 1.5$$