

## Math 9 Assignment 1: BEDMAS Operations (solutions)

$$1. \frac{\frac{3}{5} - \frac{2}{3}}{\frac{9}{15} - \frac{10}{15}} = -\frac{1}{15}$$

$$2. 2 + \frac{3}{7}$$
$$\frac{14}{7} + \frac{3}{7} = \frac{17}{7}$$

$$3. 5\frac{4}{5} = \frac{a}{b}$$
$$\frac{29}{5}$$

$$4. 3.2 \times 5.1$$
$$16.32$$

$$5. \frac{3 \cdot 3}{4 \cdot 5}$$
$$\frac{9}{20}$$

$$6. 3 \times \frac{4}{7}$$
$$\frac{12}{7}$$

$$7. \frac{3}{4} \div \frac{5}{4}$$
$$\frac{3}{4} \times \frac{4}{5}$$
$$\frac{3}{5}$$

$$8. 3 \div \frac{4}{5}$$
$$3 \times \frac{5}{4}$$
$$\frac{15}{4}$$

$$9. 1 - 3 \times 5 + 2$$
$$3 - 15 = -12$$

$$10. \frac{0}{3}$$
$$0$$

$$11. \frac{24}{4 \times 6}$$
$$\frac{24}{24} = 1$$

$$12. 2^3 - 4(3 - 5)^2$$
$$8 - 4(4)$$
$$8 - 16 = -8$$

$$13. 305 \times 89$$
$$27145$$

$$14. 12.4 \times 2.03$$
$$25.172$$

$$15. -5^2$$
$$-25$$

$$16. -(-7)^2$$
$$-49$$

$$17. (-1)^{2024}$$
$$1$$

$$18. -4(-5)$$
$$20$$

$$19. 2\frac{3}{5} + \frac{2}{3} - 4$$
$$\frac{13}{5} + \frac{2}{3} - 4$$
$$\frac{39}{15} + \frac{10}{15} - \frac{60}{15}$$
$$-\frac{11}{15}$$

$$20. \frac{3/5}{2/3}$$
$$\frac{3}{5} \div \frac{2}{3}$$
$$\frac{3}{5} \times \frac{3}{2} = \frac{9}{10}$$

$$21. 8 \div 4(1 + 1)$$
$$2(1 + 1)$$
$$2(2) = 4$$

$$22. \left(\frac{2}{5}\right)^2$$
$$\frac{4}{25}$$

$$23. \sqrt{\frac{100}{9}}$$
$$\frac{10}{3}$$

$$24. -3\left(2 - \frac{1}{2}\right)$$
$$-3\left(\frac{4}{2} - \frac{1}{2}\right)$$
$$-3\left(\frac{3}{2}\right)$$
$$-\frac{9}{2}$$

$$25. \sqrt{0.09}$$
$$0.3$$

26.  $\sqrt{-9}$   
Undefined

27.  $\sqrt{9} + \sqrt[3]{-125}$   
 $3 - 5 = -2$

28.  $\frac{250}{3}$

- As a mixed fraction  
 $83\frac{1}{3}$
- As a decimal number  
 $83.\bar{3}$
- As a percent  
 $8333.\bar{3}\%$

29.  $\frac{114490}{17}$  as a decimal number  
 $\approx 6734.7$

30. Simplify as a fraction  $0.\bar{6} - (2 + 1.\bar{3})$

$$\frac{2}{3} - \left(2 + \left(1 + \frac{1}{3}\right)\right)$$
$$\frac{2}{3} - \left(3 + \frac{1}{3}\right)$$
$$\frac{2}{3} - \frac{10}{3}$$
$$-\frac{8}{3}$$

31. Round to the nearest hundred: \$115726  
115700

32. Simplify  $\frac{5.12}{0.4}$  in the form  $\frac{a}{b}$   
 $\frac{512}{40} = \frac{64}{5}$

33.  $\frac{16 \div 4}{\frac{2}{5}}$

$$4 \div \frac{2}{5}$$
$$4 \times \frac{5}{2} = 10$$

34.  $-\frac{2}{3} \div \frac{2}{5} - \left(\frac{2}{3} \times -\frac{3}{2}\right)$

$$-\frac{2}{3} \times \frac{5}{2} - (-1)$$
$$= -\frac{5}{3} + \frac{3}{3} = -\frac{2}{3}$$

$$\begin{aligned}
 35. & (-3^2)^3 - (-1)^{20} \div \frac{4}{5} \\
 & (-9)^3 - 1 \times \frac{5}{4} \\
 & -729 - \frac{5}{4} \\
 & -\frac{2921}{4}
 \end{aligned}$$

$$\begin{aligned}
 36. & 2(1 - 3) - \frac{(-5)^2}{-5^2} (1 - (2 - 5)) \\
 & 2(-2) - \frac{25}{-25} (1 - (-3)) \\
 & -4 + 1(4) \\
 & 0
 \end{aligned}$$

$$\begin{aligned}
 37. & 2\frac{1}{2}\% \text{ of 1 trillion?} \\
 & 0.025 \times 1\,000\,000\,000\,000 \\
 & 25 \times 1\,000\,000\,000 \\
 & 25 \text{ billion}
 \end{aligned}$$

38. Challenge:

$$\begin{aligned}
 \text{a. Convert to a fraction } 0.\overline{5} \\
 10x &= 5.55555555 \dots \\
 x &= 0.55555555 \dots \\
 9x &= 5.00000000 \dots \\
 9x &= 5 \\
 \frac{5}{9}
 \end{aligned}$$

$$\begin{aligned}
 \text{b. Convert } 3.0\overline{123} \text{ to a fraction} \\
 \text{Let } x &= 0.0\overline{123} \\
 10x &= 0.\overline{123} \\
 10000x &= 123.\overline{123} \\
 \text{Subtract bottom minus top:} \\
 9990x &= 123 \\
 x &= \frac{123}{9990} \\
 3 + x &= \frac{10031}{3330} \\
 3\frac{123}{9990}
 \end{aligned}$$