

Mathemagica[®]

TEST – STANDARD – 8TH GSEB

Chapters: **Algebraic Expressions, Rational Numbers and Power and Exponents**



Total Marks: **50**
Duration of Test: **120 Minutes.**

TEST Algebraic Expressions + R. Numbers + P. Exp. (20) (10) (20)

Total - 50

② 1. Which out of these is the Rational Number:
Greatest

$$-\frac{11}{28}, -\frac{5}{7}, \frac{9}{-14}, \frac{22}{-42}$$

② 2. The cost of $8\frac{1}{2}$ m cloth is ₹ $157\frac{1}{4}$. What is the cost of 21 m of cloth?

④ 3. Write 10 rational numbers between $\frac{1}{9}$ & $\frac{1}{4}$

② 4. If $x = \frac{2}{3}$, $y = \frac{4}{5}$, $z = \frac{5}{6}$ prove:

a) $y \div z \neq z \div y$

⑩ ⑤. Simplify:

a) $\left(\frac{1}{2}\right)^2 \times \left(\frac{2}{3}\right)^3 \div \left(\frac{4}{5}\right)^3$

e) $\left(\frac{-2}{3}\right)^3 \times \left(\frac{-3}{4}\right)^3$

b) $\left(\frac{-1}{2}\right)^3 \times 2^2 \div \left(\frac{4}{3}\right)^2$

c) $\left(\frac{-3}{4}\right)^3 \times \left(\frac{-4}{3}\right)^3 \div \left(\frac{3}{4}\right)^2$

d) $\left(\frac{1}{2}\right)^3 \times \left(\frac{3}{4}\right)^3 \div \left(\frac{3}{5}\right)^3$

10) 6. a. $\left[\left(\frac{1}{3}\right)^{-3} - \left(\frac{1}{2}\right)^{-3} \right] \div \left(\frac{1}{4}\right)^{-3}$ Evaluate.

b. $\left[\left(\frac{-1}{5}\right)^2 \right]^{(-2)} \div \left(\frac{-1}{5}\right)^{(-1)}$

c. $\left[\left(5^{-1}\right) \times \left(3^{-1}\right) \right]^{(-1)} \div 6^{(-1)}$

d. Mass of Earth is 5.97×10^{24} kg and mass of moon is 7.35×10^{22} kg. What would be the total of two put together?

20) 7. using suitable identities; Evaluate:

1. $(5a-7b)(5a-7b)$

2. $(5x+3)(5x+3)$

3. $(2k+3)(2k+7)$

4. $\left(\frac{2}{5}x - \frac{7}{6}y\right)\left(\frac{2}{5}x + \frac{7}{6}y\right)$

5. $(8y+4)(8y+3)$

6. $(z+7)(z+6)$

7. $\left(4a - \frac{1}{4}a\right)\left(4a + \frac{1}{4}a\right)$

8. find 'x' :- $4x = (42)^2 - (38)^2$ $5x = (60)^2 - (40)^2$

9. If $2a + 7b = 11$; $ab = 2$, find $4a^2 + 49b^2$

10. Evaluate: 501×499 .