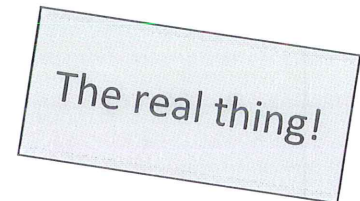


Name: _____

Block: _____

Quiz: Review (II).
Chapters 1 and 2
Group B.



There are 5 questions in this quiz, each of equal value.
Standard time for the test is 15 minutes.
No calculator is allowed. (accommodation excepted)

Question 1:
Simplify.

$$7 - [(x - 2) - (4 + 4x)] \div 3 - 4x =$$

$$\begin{array}{c} x - 2 - 4 - 4x \\ -6 - 3x \end{array}$$

$$7 - [-6 - 3x] \div 3 - 4x =$$

$$7 + [6 + 3x] \div 3 - 4x = 7 + 2 + x - 4x = \boxed{9 - 3x}$$

Question 2:

Solve for x.

$$6 - (x + 1) \cdot 2 = 22 - 4(2x - 3)$$

$$6 - 2x - 2 = 22 - 8x + 12$$

$$4 - 2x = 34 - 8x$$

$$6x = 30$$

$$\boxed{x = 5}$$

check:

$$\begin{array}{l} 6 - (5 + 1) \cdot 2 \stackrel{?}{=} 22 - 4(2 \cdot 5 - 3) \\ 6 - 12 \stackrel{?}{=} 22 - 28 \\ -6 \stackrel{?}{=} -6 \checkmark \end{array}$$

Question 3:

Simplify the following expressions so they include only positive exponents.

1. $(4x^{-3})^2$

$$4^2(x^{-3})^2 = \boxed{\frac{16}{x^6}}$$

2. $\left(\frac{-4}{x^4}\right)^{-2}$

$$\frac{(-4)^{-2}}{(x^4)^{-2}} = \frac{(x^4)^2}{(-4)^2} = \boxed{\frac{x^8}{16}}$$

3. $(5 \cdot 10^{-3}) \times (3 \cdot 10^7)$

$$5 \cdot 3 \cdot 10^{-3} \cdot 10^7 = \boxed{15 \cdot 10^4}$$

Question 4:

Simplify the following expression so it includes only positive exponents.

$$\left(\frac{x^2 \cdot 2 \cdot y^{-2}}{6 \cdot x^{-3} \cdot y^{-3}}\right)^3$$

$$\left(\frac{2}{6}\right)^3 \cdot \left(\frac{x^2}{x^{-3}}\right)^3 \cdot \left(\frac{y^{-2}}{y^{-3}}\right)^3 =$$

$$\frac{1}{27} \cdot x^{15} \cdot y^3 = \boxed{\frac{x^{15} \cdot y^3}{27}}$$

Question 5.a:

Solve the equation $S = 5 + vt$, for v .

$$S - 5 = vt$$

$$\boxed{\frac{S-5}{t} = v}$$

Question 5.b:

Solve the equation $E = xT - 2yT$, for T .

$$E = T \cdot (x - 2y)$$

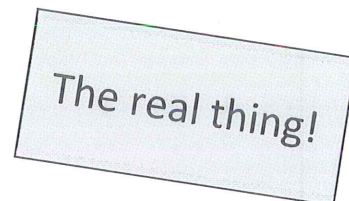
$$\boxed{\frac{E}{x-2y} = T}$$

=== End ===

Name: _____

Block: _____

Quiz: Review (II).
Chapters 1 and 2
Group A.



There are 5 questions in this quiz, each of equal value.

Standard time for the test is 15 minutes.

No calculator is allowed. (accommodation excepted)

Question 1:

Simplify.

$$5 - [(x - 2) - (4 + 4x)] \div 3 - 3x$$

$$\begin{aligned} & \quad \quad \quad \underbrace{x - 2 - 4 - 4x}_{x - 2 - 4 - 4x} \\ 5 - [-3x - 6] \div 3 - 3x = \\ 5 + (6 + 3x) \div 3 - 3x = 5 + 2 + x - 3x = \\ & \quad \quad \quad \boxed{7 - 2x} \end{aligned}$$

Question 2:

Solve for x.

$$6 - (x + 2) \cdot 2 = 22 - 4(2x - 1)$$

$$6 - 2x - 4 = 22 - 8x + 4$$

$$2 - 2x = 26 - 8x$$

$$6x = 24$$

$$\boxed{x = 4}$$

$$\begin{aligned} \text{Check: } & 6 - (4 + 2) \cdot 2 = 22 - 4(2 \cdot 4 - 1) \\ & 6 - 12 = 22 - 28 \\ & -6 = -6 \quad \checkmark \end{aligned}$$

Question 3:

Simplify the following expressions so they include only positive exponents.

1. $(3x^{-3})^2$

$$3^2 \cdot (x^{-3})^2 = 9x^{-6} = \boxed{\frac{9}{x^6}}$$

2. $\left(\frac{-4}{x^4}\right)^{-2}$

$$\frac{(-4)^{-2}}{(x^4)^{-2}} = \frac{(x^4)^2}{(-4)^2} = \boxed{\frac{x^8}{16}}$$

3. $(5 \cdot 10^{-3}) \times (3 \cdot 10^7)$

$$5 \cdot 3 \cdot 10^{-3} \cdot 10^7 = \boxed{15 \cdot 10^4}$$

Question 4:

Simplify the following expression so it includes only positive exponents.

$$\left(\frac{x^2 \cdot 3 \cdot y^{-2}}{6 \cdot x^{-3} \cdot y^{-3}}\right)^3$$

$$\left(\frac{3}{6}\right)^3 \cdot \left(\frac{x^2}{x^{-3}}\right)^3 \cdot \left(\frac{y^{-2}}{y^{-3}}\right)^3 =$$

$$\frac{1}{8} x^{15} \cdot y^3 = \boxed{\frac{x^{15} \cdot y^3}{8}}$$

Question 5.a:

Solve the equation $S = 5 + vt$, for v .

$$S - 5 = vt$$

$$\boxed{\frac{S - 5}{t} = v}$$

Question 5.b:

Solve the equation $E = xT - 2yT$, for T .

$$E = T(x - 2y)$$

$$\boxed{\frac{E}{(x - 2y)} = T}$$

=== End ===