ADM……….. NAME ……………………………………………………………… CLASS …….  

1. Round off ;
   a) 468.3894 to two decimal places  

   b) 43264 to the nearest on thousand  

2. What is the Greatest Common Divisor of 33, 121 and 143?  

3. Express the following numbers in terms of their prime factors;  
   i) 360  
   ii) 90
4. What is the **place value** and **total value** of digit 5 in 8950403? (2mks)

5. Solve for the equation below: (2mks)

\[
\begin{align*}
\frac{1\frac{1}{4} \times 2\frac{1}{2}}{3\frac{1}{2} - 2\frac{1}{4}}
\end{align*}
\]

6. Find the **LCM** of 45, 12, and 9? (2mks)

7. Attempt question (a) and (b) (6mks)
   a. Fill the blank space below
      A number is divisible by 9 if the _______ of its digits is divisible by 9
   b. Test whether 712 008 is divisible by: *(note: give your answer as a “yes” or “no”)*
      i. 2 _________  iv. 9 _______
      ii. 3 _________
      iii. 8 _________
      v. 11 _________
8. Express the following recurring decimals as a fraction

   a. 0.\overline{523} \quad (2mks)

   b. 0.2\overline{56} \quad (2mks)

9. Find the value of $y$:

   a. $5 \times 6 - 76 \div 4 + 27 \div y = 20 \quad (2mks)$

   b. $-7 \times 41 + 36 \div y + 12 \times 12 = -139 \quad (2mks)$
10. A classroom floor is made of small square tiles of side $\frac{1}{20}m$. If the floor measures $6m$ by $5m$, how many square tiles are needed to cover the floor? (1mk)
1. Round off:
   a) 468.3894 to two decimal places
      \[ 468.3894 \]
      \[ 468.39 \] \[ \checkmark \]
   b) 43264 to the nearest one thousand.
      Since 2 is less than 5,
      the answer is: \[ 43000 \] \[ \checkmark \]

2. What is the GCD of 33,121 and 143?

   \[
   \begin{array}{c|c|c|c}
   11 & 33 & 121 & 143 \\
   \hline
   3 & 11 & 13 \\
   \end{array}
   \]
   \[= 11 \] \[ \checkmark \]

3. Prime factors
   (1) \[ 360 \]
       \[ 2 \]
       \[ 180 \]
       \[ 2 \]
       \[ 90 \]
       \[ 2 \]
       \[ 45 \]
       \[ 3 \]
       \[ 15 \]
       \[ 3 \]
       \[ 5 \]
       \[= 2^3 \times 3^2 \times 5 \]
   (11) \[ 90 \]
       \[ 2 \]
       \[ 45 \]
       \[ 3 \]
       \[ 15 \]
       \[ 3 \]
       \[ 5 \]
       \[= 2 \times 3 \times 3 \times 5 \]
       \[= 2^1 \times 3^2 \times 5 \] \[ \checkmark \]
   = 2Mks

= 2Mks
4. What is the place value and total value of digit 5 in \( \text{895040} \)?
   - Place Value: \( \text{ten thousands} \)
   - Total Value: \( \text{50,000} \)

5. Solve: \( \frac{\frac{1}{4} \times 2\frac{1}{2}}{3\frac{1}{2} - 2\frac{1}{4}} \)
   - Step 1: Change 1-to
   - Step 2: Work with numerator: \( \frac{\frac{5}{4} \times \frac{5}{2}}{\frac{1}{2} - \frac{9}{4}} \)
   - Step 3: Work with denominator: \( \frac{\frac{14}{4} - \frac{9}{4}}{\frac{5}{4} \times \frac{3}{4}} = \frac{\frac{5}{4}}{\frac{15}{8}} = \frac{\frac{5}{4}}{\frac{15}{8}} \)
   - Step 4: \( \frac{\frac{25}{8}}{4} = \frac{\frac{5}{4}}{4} \)

6. Find the LCM: 45, 12, 9
   - \( \begin{array}{c|ccc}
   2 & 45 & 12 & 9 \\
   3 & 45 & 6 & 9 \\
   3 & 15 & 2 & 9 \\
   5 & 15 & 1 & 3 \\
   & 5 & 5 & 1 \\
   & 1 & 1 & 1 \\
   \end{array} \)
   - \( 2 \times 3^2 \times 5 = 4 \times 9 \times 5 = 4 \times 45 = 180 \)

7.(a) A number is divisible by 9 if the sum of its digits is divisible by 9.

(b) 1. Yes [a number is divisible by 10 if its last digit is zero or even]
   2. Yes [a number is divisible by 3 if the sum of its digits is divisible by 3]
   3. Yes [a number is divisible by 8 if the number formed by its last 3-digits is divisible by 8]
(b) (iii) yes

A number is divisible by 9 if the sum of its
last 3 digits is divisible by 9.

(ii) Yes

A number is divisible by 11 if the sum of its
digits in the 1st, 3rd, 5th etc positions and the
sum of its digits in the 2nd, 4th, 6th etc
positions are equal or differ by 11 or by a
Multiple of 11.

12, 712, 008

\[(7 + 2 + 0) = (1 + 0 + 8)\]

\[9 \neq 9\text{ are equal thus}\]

\[712, 008\text{ is divisible by 11.}\]

8) 0.523 into fraction

Let \( r = 0.523 \)

\[10r = 5.23523 \]
\[100r = 52.3523 \]
\[10000r = 523.523 \]

\[(10000r - r) = (523 - 0)\]

\[9999r = 523\]

\[r = \frac{523}{9999} \]

(b) 0.256 into fraction

Let \( r = 0.2565656 \)

\[10r = 2.565656 \]
\[100r = 25.65656 \]
\[10000r = 256.5656 \]

\[(10000r - 10r) = 256 - 2\]

\[9990r = 254\]

\[r = \frac{254}{9990} = \frac{127}{495} \]

\[r = \frac{127}{495} \]
Find the value of $y$.

5x6 - 76 ÷ 4 + 27 ÷ $y$ = 20

We used Benine.

$20 - 19 + \frac{27}{y} = 20$

$11 + \frac{27}{y} = 20$

$\frac{27}{y} = 20 - 11$

$\frac{27}{y} = 9$

$y = 3$

1

(b) $-7 \times 41 + \frac{36}{y} + 12 \times 12 = -139$

$-287 + \frac{36}{y} + 144 = -139$

$\frac{36}{y} - 143 = -139$

$\frac{36}{y} = -139 + 143$

$y \times \frac{36}{y} = 4 \times y$

$26 = 4y$

$y = 9$

1

(c) $24 ÷ 3 + 4 \times 5 - y \div 4 \times 10$ = 9

6 + 20 - $\frac{10y}{4}$ + 1 = 9

29 - $\frac{10y}{4}$ = 9

$4 \times -\frac{10y}{4} = -20 \times 4$

$-10y = -80$

$\frac{-10y}{-10} = \frac{-80}{-10}$

$y = 8$