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SUBJECT: BASIC MATHS

DEPARTMENT: BBA

Q1.

Ans.

A)

$$x+3\sqrt{x^{3}+6x^{2}+11x+6} $$

$$-x^{3}+3x^{2}$$

$$ \\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_$$

$$-3x^{2}+11x+6$$

$$\frac{-3x^{2}+9x}{\begin{array}{c}+2x+6\\2x+6\end{array}}$$

Therefore $\frac{x^{2}+6x^{2}+11x+6}{x+3}=x^{2}$

$$3x+2+\frac{0}{x+3}=x^{2}+3x+2 $$

b)

ans.

$$6x^{2}+23x+7=$$

$$2x\left(3x+1\right)+7\left(3x+1\right)$$

$$\left(3x+1\right) \left(2x+7\right)$$

c)

ans.

$$=\frac{4}{x+2}+\frac{7}{x^{2}+3x+2}$$

$$=\frac{4x^{2}+19x+22}{x^{3}+5x^{2}+8x+4}$$

$$=\frac{\left(4x^{2}+11\right)\left(x+2\right)}{\left(x+1\right)\left(x+2\right)\left(x+2\right)}$$

$$=\frac{4x+11}{x^{2}+2x+x+2}$$

$$=\frac{4x+11}{x^{2}+3x+2}$$

Q2.

Ans.

1)

$$\frac{27}{2}=13.5 decimal$$

$$now percentage \frac{13.5×100}{1×100}$$

$$\frac{1350}{100}=1350\% or 13.5\%$$

$$1350\% or 13.5\% is the percentage of\frac{27}{2}$$

2)

Ans.

$$\frac{18}{450}×100=4$$

$$percent of 18 of 450 is=4$$

3)

Ans.

$$sold price=1500$$

$$profit=\frac{2}{3}\left(cost.price\right)$$

$$we have 5 part of sold item each part cost rs.300$$

$$1part=300$$

$$3 parts=900$$

$$so,cost price=900$$

$$gross profit=1500-900=600$$

$$percentage=\frac{600}{900}×100=66.67\%$$

Q3.

Ans

a)

$$A\left[\begin{matrix}2&4&7\\5&3&1\end{matrix}\right] B=\left[\begin{matrix}3&9\\2&4\end{matrix}\right]$$

$$=Matrix not be solved because A column and B row amount need to be same$$

b)

ans.

$$=2x\left(1×0-2×1\right)-2x\left(-2×0-2×2\right)+0x\left(2×1-1×2\right)$$

$$=2x\left(0-2\right)-2x\left(0-4\right)+0x\left(-2-2\right)$$

$$=2x\left(-2\right)-2x\left(-4\right)+0x\left(-4\right)$$

$$=-4+8+0$$

$$=4$$

c)

ans.

$$A\left[\begin{matrix}5&1\\6&-1\end{matrix}\right]answer column matrix\left[\begin{matrix}5\\6\end{matrix}\right]$$

$$Ax=\left[\begin{matrix}5&1\\6&-1\end{matrix}\right] Ay=\left[\begin{matrix}3&5\\6&6\end{matrix}\right]$$

$$\left|A\right|=\left(3×-1\right)-\left(1×6\right)= -3-6= -9$$

$$\left|Ax\right|=\left(3×-1\right)-\left(1×6\right)= -5-6= -11$$

$$\left|Ay\right|=\left(3×6\right)-\left(5×6\right)=18-20= -12$$

$$x=\frac{\left|Ax\right|}{\left|A\right|}=\frac{-11}{-9}=1.22 $$

$$y=\frac{\left|Ay\right|}{\left|A\right|}=\frac{-12}{-9}=1.33$$

Q4.

Ans.

$$2x+y+z=5 \left(1\right) x=\frac{5}{2} \left(1\right)$$

$$3x-2y-z=11 \left(2\right) y=\frac{-7}{2} \left(2\right)$$

$$3x+y+2z=11 \left(3\right) z=\frac{7}{2} \left(3\right)$$

Multiply 1 equation by -3/2 and add the result to 2 equation.

$$2x+y+z=5$$

$$\frac{-7}{2}y-\frac{5}{2}=\frac{7}{2}$$

$$3x+y+2z=11$$

Mutply 1 equation by -3/2 and add the result to 2 equation

$$2x+y+z=5$$

$$\frac{-7}{2y}+\frac{1}{2z}=\frac{7}{2}$$

$$set rid of the fractions by xing 2 equation by 2 and 3 equation by 2 after multpliying we have $$

$$2x+y+z=5$$

$$-7y-5z=7$$

$$-y+z=7$$

Multiply 2 equation by -1/7 and add the result to 3 equation

$$2x+y+z=5$$

$$-7y-5z=7$$

$$\frac{12}{7z}=6$$

Solve for z

$$\frac{12}{7}z=6$$

$$z=\frac{12}{7}×6 $$

$$z=\frac{2}{7},\frac{7}{2}$$

Solve for y

$$-7y-5z=7$$

$$-7y-5\frac{7}{2}=7$$

$$y=\frac{-7}{2}$$