

Factor each completely.

1. $3c^4 - 25c^2 - 18$

2. $5x^3 + x^2 + 20x + 4$

3. Solve each inequality.

a) $72 \leq 3m + 13 - 8m$ Sol :

b) $6c - 2(c + 9) - 2 < 3c + 17 + c$ Sol :

ANSWERS

Factor each completely.

1. $3c^4 - 25c^2 - 18$

$(c^2 - 9)(3c^2 + 2)$

$$\begin{array}{r} \begin{array}{cc} -54 & +2 \\ -27 & -25 \end{array} \\ \times \\ \hline \end{array}$$

$$\begin{array}{c} c^2 - 9 \\ 3c^2 \end{array} \begin{array}{|c|c|} \hline 3c^4 & -27c^2 \\ \hline +2 & -18 \\ \hline \end{array}$$

$(c^2 - 9)(3c^2 + 2)$
 $c^2 - 9$
 $c \pm 3$

2. $5x^3 + x^2 + 20x + 4$

$$\begin{array}{c} \downarrow \\ 5x \quad +1 \\ x^2 \end{array} \begin{array}{|c|c|} \hline 5x^3 & +x^2 \\ \hline +4 & +20x \\ \hline \end{array}$$

$(5x+1)(x^2+4)$

3. Solve each inequality.

a) $72 \leq 3m + 13 - 8m$

$$\begin{array}{r} 72 \leq -5m + 13 \\ -13 \quad -13 \\ \hline 59 \leq -5m \end{array}$$

$$\begin{array}{r} 59 \leq -5m \\ -5 \quad -5 \\ \hline -11.8 \geq m \end{array}$$

$-11.8 \geq m$

Sol :

$$\begin{array}{l} -11.8 \geq m \\ \text{or} \\ m \leq -11.8 \end{array}$$

b) $6c - 2(c + 9) - 2 < 3c + 17 + c$

$6c - 2c - 18 - 2 < 4c + 17$

$4c - 20 < 4c + 17$

$-20 < 17$

TRUE

Sol : ALL
REAL
#s
R