

Name:

Answers!

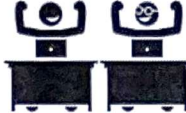
Class:



Communication



Successful Partnership



Encouragement



Solving Problem Together



Collaboration

For each of the below, re-write in factored form.

Question 01

$$2x^2 + 18x + 40$$

$$2(x^2 + 9x + 20)$$

both pos
same

$$\begin{array}{r} 20 \\ 1 \quad 20 \\ 2 \quad 10 \\ 4 \quad 5 \end{array}$$

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

Question 02

$$-x^2 + 2x + 15$$

$$-1(x^2 - 2x - 15)$$

big neg
different

$$\begin{array}{r} -15 \\ 1 \quad -15 \\ 3 \quad -5 \end{array}$$

$$-(x+3)(x-5)$$

Question 03

$$-2x^2 - 12x + 32$$

$$-2(x^2 + 6x - 16)$$

different
big pos.

$$\begin{array}{r} -16 \\ -1 \quad 16 \\ -2 \quad 8 \\ -4 \quad 4 \end{array}$$

$$-2(x-2)(x+8)$$

Question 04

$$3x^2 - 27x + 42$$

$$3(x^2 - 9x + 14)$$

same

$$\begin{array}{r} 14 \\ -1 \quad -14 \\ -2 \quad -7 \end{array}$$

$$3(x-2)(x-7)$$

Question 05

$$-5x^2 - 55x - 50$$

$$-5(x^2 + 11x + 10)$$

both neg
same
both pos

$$\begin{array}{r} 10 \\ 1 \quad 10 \\ 2 \quad 5 \end{array}$$

$$-5(x+1)(x+10)$$

Question 06

$$-x^2 + 2x + 24 \quad -1(x^2 - 2x - 24) \quad \begin{array}{c} 1 \\ 2 \\ 3 \\ 4 \end{array} \quad \begin{array}{c} -24 \\ -24 \\ -12 \\ -8 \\ -6 \end{array} \quad \boxed{-(x+4)(x-6)}$$

Question 07

$$2x^2 + 2x - 24 \quad 2(x^2 + x - 12) \quad \begin{array}{c} -1 \\ -2 \\ -3 \end{array} \quad \begin{array}{c} -12 \\ 12 \\ 6 \\ 4 \end{array} \quad \boxed{2(x-3)(x+4)}$$

Question 08

$$-2x^2 + 22x - 56 \quad -2(x^2 - 11x + 28) \quad \begin{array}{c} -1 \\ -2 \\ -4 \end{array} \quad \begin{array}{c} 28 \\ -28 \\ -14 \\ -7 \end{array} \quad \boxed{-2(x-4)(x-7)}$$

Question 09

$$-x^2 - 11x - 18 \quad -1(x^2 + 11x + 18) \quad \begin{array}{c} 1 \\ 2 \\ 3 \end{array} \quad \begin{array}{c} 18 \\ 18 \\ 9 \\ 6 \end{array} \quad \boxed{-(x+2)(x+9)}$$

Question 10

$$2x^2 - 14x - 60 \quad 2(x^2 - 7x - 30) \quad \begin{array}{c} 1 \\ 2 \\ 3 \\ 5 \end{array} \quad \begin{array}{c} -30 \\ -30 \\ -15 \\ -10 \\ -6 \end{array} \quad \boxed{2(x+3)(x-10)}$$

Question 11

$$-3x^2 - 39x + 90 \quad -3(x^2 + 13x - 30) \quad \begin{array}{c} -1 \\ -2 \\ -3 \\ -5 \end{array} \quad \begin{array}{c} -30 \\ 30 \\ 15 \\ 10 \\ 6 \end{array} \quad \boxed{-3(x-2)(x+15)}$$

Question 12

$$-10x^2 + 110x - 300 \quad -10(x^2 - 11x + 30) \quad \begin{array}{c} -1 \\ -2 \\ -3 \\ -5 \end{array} \quad \begin{array}{c} 30 \\ -30 \\ -15 \\ -10 \\ -6 \end{array} \quad \boxed{-10(x-5)(x-6)}$$