

Quick
Check
6.5.17

Factor completely.

$$-35x + 45 - 40x^2$$

Select the correct choice below and fill in any answer boxes within your choice.

★ A. $-35x + 45 - 40x^2 = -5(8x^2 + 7x - 9)$
(Factor completely.)

✗ B. The polynomial is prime.

YOU ANSWERED: B

Write in standard form:

$$-40x^2 - 35x + 45$$

step 1: GCF: -5

$$= -5(8x^2 + 7x - 9)$$

Step 2: count the terms $8x^2, 7x, -9 \Rightarrow 3$ terms

$\Rightarrow$ not perfect square (8)

$\Rightarrow 8x$ means ~~7~~ or guess & check.

$$\begin{array}{r} -72 \\ + \quad \times \quad - \\ 7 \end{array}$$

$$\begin{array}{l} 1, 72 \rightarrow 71 \\ 2, 36 \rightarrow 35 \\ 3, 24 \rightarrow 21 \\ 4, 18 \rightarrow 14 \\ 6, 12 \rightarrow 6 \\ 8, 9 \rightarrow 1 \end{array}$$

nothing gives 7 !!

So $8x^2 + 7x - 9$ is prime.

But the original question $-40x^2 - 35x + 45$
had a GCF, so it is not prime.

Answer: $\boxed{-5(8x^2 + 7x - 9)}$