Printable Worksheets from sofatutor.com

Factoring out the GCF

Factoring the
GCF

$4x^2 + 28x$

$4x\,(x + 7)$

Check: $4x\,(x + 7)$

✓ $4x \times 7 = 28x$

$4x \times x = 4x^2$

(1) **Determine the greatest common factor for all the terms listed in an expression.**

(2) Describe the greatest common factor (GCF).

(3) Determine the greatest common factor.

(4) Find the greatest common factor.

(5) Consider each term and find the greatest common factor.

(6) Name the Greatest Common Factor for each given term.

(+) with lots of tips, answer keys, and detailed answer explanations for all of the problems.

⚠ The complete package, **including all problems, hints, answers, and detailed answer explanations** is available for all sofatutor.com subscribers.
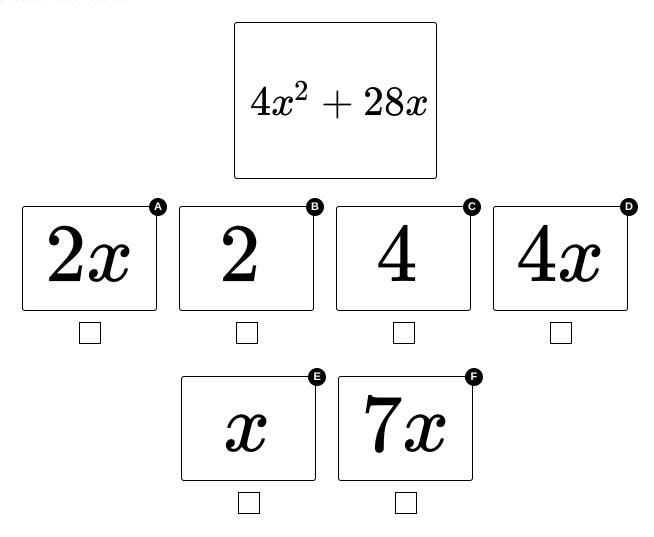
Determine the greatest common factor for all the terms listed in an expression.

Choose the correct GCF.

$$4x^2 + 28x$$

A
$$2x$$

B
$$2$$

C
$$4$$

D
$$4x$$

E
$$x$$

F
$$7x$$

Hints for solving these problems

1
of 6

Determine the greatest common factor for all the terms listed in an expression.

Hint #1

Remember, you are looking for the greatest common factor, not just any factor.

Hint #2

Make a list of factors for each term and see which factors are common to all terms.

Hint #3

The product of the factors common to each term is called the greatest common factor.

Answers and detailed answer explanations for these problems

(1)
of 6
Determine the greatest common factor for all the terms listed in an expression.

Answer key: D

First, we factor each term and then look for the common factors:

$$4x^2 + 28x = (2 \times 2) \times (x \times x) + (2 \times 2 \times 7) \times (x)$$

Now we see that two 2s and x are factors common to all terms. So the product of $2 \times 2 \times x$ is the **greatest common factor**, $4x$.

So when we factor out the GCF from the original expression, we get:

$$4x^2 + 28x = 4x(x + 7)$$

Again, you can check your solution using the **Distributive Property**. Multiply $4x$ by each term listed inside the parentheses.