PRACTICE QUESTIONS: Common Factoring

NAME: _____

1. Find the greatest common factor of each set of terms.

a) 8, 18 **b)** $10x$, 25

c) $4x^2$, $12x$ **d)** $4x^2$, $8x^2$, $12x$

For help with question 2, refer to Example 2.

2. Find the greatest common factor. Then, write the binomial in factored form.

a) $3x + 15$ **b)** $4x^2 + 8x$

c) $5x^2 - 10x$ **d)** $-7x + 21x$

3. Factor each polynomial.

a) $3x^2 - 12x + 18$ **b)** $-10x^2 + 20x - 30$

c) $-9x^2 - 3x + 9$ **d)** $4x^2 - 6x + 8$

4. Factor each polynomial completely.

a) $6x^2 + 12x$ **b)** $9x^2 + 18x$

c) $4x^2 + 24x$ **d)** $15x^2 + 30x$

5. Refer to your answers to question 4.

a) Does each greatest common factor contain a variable?

b) What type of expression is the other factor?

6. Factor each polynomial completely. Check your answer by expanding.

a) $8x - 24$ **b)** $x^2 + 5x$

c) $x^2 - 10x$ **d)** $4x^2 + 16x + 24$

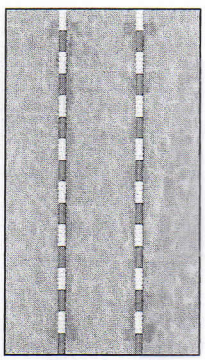
For help with question 7, refer to Example 4.

7. A swimming pool has the area shown.

a) Factor completely the expression representing the area to determine the length and the width of the swimming pool.

b) Find the actual measures of its sides if $x = 2$ m.

c) Find the perimeter of the pool.



$A = x^2 + 5x$

Answers

1. a) 2 b) 5 c) $4x$ d) $4x$

2. a) $3(x + 5)$ b) $4x(x + 2)$ c) $5x(x - 2)$ d) $-7x(1 - 3x)$

3. a) $3(x^2 - 4x + 6)$

b) $-10(x^2 - 2x + 3)$

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

d) $2(2x^2 - 3x + 4)$

4. a) $6x(x + 2)$ b) $9x(x + 2)$

c) $4x(x + 6)$ d) $15x(x + 2)$

5. a) yes b) binomial

6. a) $8(x - 3)$ b) $x(x + 5)$

c) $x(x - 10)$ d) $4(x^2 + 4x + 6)$

7. a) $x(x + 5)$ b) 2 m by 7 m

c) 18 m