

Name: \_\_\_\_\_

Date: \_\_\_\_\_

# FACTORING POLYNOMIALS USING GCF

Take the greatest common factor out of each expression and simplify where applicable.

①  $a(a + 3b) + b(a + 3b)$

\_\_\_\_\_

②  $50 - 32p^2$

\_\_\_\_\_

③  $12cd^3 + 27c^3d$

\_\_\_\_\_

④  $-w^2v - 8uvw - 12w^2v$

\_\_\_\_\_

⑤  $50x^3 + 60x^2 + 18x$

\_\_\_\_\_

⑥  $32x^2 - 96x + 72$

\_\_\_\_\_

⑦  $98h - 32g^2h$

\_\_\_\_\_

⑧  $48e^2 + 32e$

\_\_\_\_\_

⑨  $3a^2 - 42ab + 147b^2$

\_\_\_\_\_

⑩  $12k^2 - 144k - 84$

\_\_\_\_\_

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## Answers

①  $a(a + 3b) + b(a + 3b)$

$$\frac{(a + 3b)(a + b)}{\quad}$$

②  $50 - 32p^2$

$$\frac{2(25 - 16p^2)}{\quad}$$

③  $12cd^3 + 27c^3d$

$$\frac{3cd(4d^2 + 9c^2)}{\quad}$$

④  $-w^2v - 8uvw - 12w^2v$

$$\frac{wv(-w - 8u - 12w^2)}{\quad}$$

⑤  $50x^3 + 60x^2 + 18x$

$$\frac{2x(5x + 3)^2}{\quad}$$

⑥  $32x^2 - 96x + 72$

$$\frac{4(2x - 3)^2}{\quad}$$

⑦  $98h - 32g^2h$

$$\frac{2h(49 - 16g^2)}{\quad}$$

⑧  $48e^2 + 32e$

$$\frac{16e(3e + 2)}{\quad}$$

⑨  $3a^2 - 42ab + 147b^2$

$$\frac{3(a - 7b)^2}{\quad}$$

⑩  $12k^2 - 144k - 84$

$$\frac{12(k^2 - 12k - 7)}{\quad}$$