

Name : _____

Multiplying Polynomials

Single-variable: S3

Multiply the following.

1) $3k^5(10k + 15 + 3k^2 + 6k^4 + 9k^6)$

2) $18m\left(-3m^6 - \frac{2}{9} - m^2 - \frac{4}{9}m^5\right)$

3) $-7p^7(-6p^4 - 14p^3)$

PREVIEW

$1y^4 - 4y^7 - 3y)$

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5) $\frac{3}{4}u^3\left(\frac{8}{9}u^7 - \frac{1}{6}u^2 - \right)$

$s^7)$

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7) $-5a^2(-9a^2 + 3 - 7a + 5a^7 - 10a^3)$

8) $14(2w + 5w^6 - 1 - 4w^2)$

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Answer key

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2) $18m\left(-3m^6 - \frac{2}{9} - m^2 - \frac{4}{9}m^5\right)$

$27k^{11} + 18k^9 + 9k^7 + 30k^6 + 45k^5$

$-54m^7 - 8m^6 - 18m^3 - 4m$

3) $-7p^7(-6p^4 - 14p^3)$

PREVIEW

$1y^4 - 4y^7 - 3y$

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$-14p^{13} + 42p^{11} +$

$6y^6 - 6y^5 + 18y^3$

5) $\frac{3}{4}u^3\left(\frac{8}{9}u^7 - \frac{1}{6}u^2 -$

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$s^7)$

$\frac{2}{3}u^{10} - \frac{5}{7}u^8 - \frac{1}{8}u$

$54s^7$

7) $-5a^2(-9a^2 + 3 - 7a + 5a^7 - 10a^3)$

8) $14(2w + 5w^6 - 1 - 4w^2)$

$-25a^9 + 50a^5 + 45a^4 + 35a^3 - 15a^2$

$70w^6 - 56w^2 + 28w - 14$