

Name : _____

Single-variable: S3

Multiplying Polynomials

Multiply the polynomials.

1) $(1 + 2c^6 - 3c^5)(9c^5 - 7c^6)$

2) $(4z^4 - 2z^2)(16z^6 + 8z^4 + 4z^2 + 10)$

3) $\left(\frac{2}{5}k^6 + k^5 - 2k^4 + \frac{1}{2}\right)$

$+ 2w^2)$

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5) $(-8g^3 + 1 - 4g^5 + 2g^2)$

$(d^4 + 8 + 4d^2)$

7) $(-5r^4 - 6r^3)(-3r + 5r^3 - 6r^2)$

8) $\left(-\frac{1}{4}v + \frac{5}{2}\right)\left(4v^4 + 8v^5 - \frac{4}{5}v^6\right)$

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Answer key

Single-variable: S3

Multiplying Polynomials

Multiply the polynomials.

1) $(1 + 2c^6 - 3c^5)(9c^5 - 7c^6)$

2) $(4z^4 - 2z^2)(16z^6 + 8z^4 + 4z^2 + 10)$

$-14c^{12} + 39c^{11} - 27c^{10} - 7c^6 + 9c^5$

$64z^{10} + 32z^4 - 20z^2$

3) $\left(\frac{2}{5}k^6 + k^5 - 2k^4 + \frac{1}{2}\right)$

PREVIEW

$+ 2w^2)$

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$-2k^8 - 9k^7 + \frac{35}{2}k^5$

$6 + 6w^3 + 12w^2 - 72$

5) $(-8g^3 + 1 - 4g^5 + 2g)$

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$d^4 + 8 + 4d^2)$

$-16g^{10} + 8g^9 - 32g$

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7) $(-5r^4 - 6r^3)(-3r + 5r^3 - 6r^2)$

8) $\left(-\frac{1}{4}v + \frac{5}{2}\right)\left(4v^4 + 8v^5 - \frac{4}{5}v^6\right)$

$-25r^7 + 51r^5 + 18r^4$

$\frac{1}{5}v^7 - 4v^6 + 19v^5 + 10v^4$