

Steve Blades Worksheet

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Find each coefficient described.

1) Coefficient of n^2 in expansion of $(n + 2)^5$

2) Coefficient of x^3 in expansion of $(3 + x)^4$

3) Coefficient of b^2 in expansion of $(b + 3)^4$

4) Coefficient of y^2 in expansion of $(2 + y)^4$

5) Coefficient of u^2 in expansion of $(u + 4)^4$

6) Coefficient of y^3 in expansion of $(4 + y)^4$

Find each term described.

7) 5th term in expansion of $(x + 3)^5$

8) 2nd term in expansion of $(x + 4)^4$

9) 3rd term in expansion of $(v + 2)^4$

10) 3rd term in expansion of $(4 + b)^4$

11) 3rd term in expansion of $(2 + n)^5$

12) 2nd term in expansion of $(3 + u)^4$

Expand completely.

13) $(y + 2)^4$

14) $(x + 4)^4$

15) $(b + 3)^5$

16) $(2 + a)^4$

17) $(3 + x)^5$

18) $(4 + a)^4$

Find each coefficient described.

19) Coefficient of x^2y in expansion of $(x - y)^3$

20) Coefficient of u in expansion of $(u - 3)^4$

21) Coefficient of y^2 in expansion of $(5 + y)^3$

22) Coefficient of x^2y^2 in expansion of $(x + y)^4$

23) Coefficient of u^2 in expansion of $(u - 2)^3$

24) Coefficient of y in expansion of $(y - 5)^3$

25) Coefficient of y^3x in expansion of $(y - x)^4$

26) Coefficient of a^2 in expansion of $(a - 3)^3$

27) Coefficient of n^2 in expansion of $(3n - 1)^4$

28) Coefficient of xy^2 in expansion of $(2x + 5y)^3$

29) Coefficient of m^2n^2 in expansion of $(3m + n)^4$

30) Coefficient of y^2 in expansion of $(2y + 1)^3$

31) Coefficient of m^2n in expansion of $(m + 2n)^3$

32) Coefficient of nm^2 in expansion of $(n - 3m)^3$

33) Coefficient of y^2x^2 in expansion of $(y + 4x)^4$

34) Coefficient of m^2 in expansion of $(3m + 1)^4$

35) Coefficient of x^3 in expansion of $(2x - 1)^4$

36) Coefficient of yx^2 in expansion of $(4y + 2x)^3$

37) Coefficient of ab^3 in expansion of $(a - 3b)^4$

38) Coefficient of m^2n in expansion of $(m + 5n)^3$

39) Coefficient of n^2m^2 in expansion of $(3n - 4m)^4$

40) Coefficient of nm^2 in expansion of $(2n + 3m)^3$

41) Coefficient of nm^2 in expansion of $(n - 5m)^3$

42) Coefficient of xy^3 in expansion of $(2x + y)^4$

Find each term described.

43) 1st term in expansion of $(x - 5)^3$

44) 2nd term in expansion of $(4 - x)^4$

45) 2nd term in expansion of $(y + 2)^4$

46) 3rd term in expansion of $(y + 3)^4$

47) 2nd term in expansion of $(2 - y)^3$

48) 1st term in expansion of $(x + 4)^3$

49) 1st term in expansion of $(a - 4)^4$

50) 1st term in expansion of $(4y + 1)^3$

51) 4th term in expansion of $(3 + b)^3$

52) 1st term in expansion of $(3x + 1)^4$

53) 1st term in expansion of $(b - 5)^3$

54) 2nd term in expansion of $(2y - 1)^4$

55) 2nd term in expansion of $(m - 4)^4$

56) 3rd term in expansion of $(y + x)^3$

57) 2nd term in expansion of $(2y + 1)^4$

58) 3rd term in expansion of $(5y + 3x)^3$

59) 2nd term in expansion of $(4x - 1)^3$

60) 2nd term in expansion of $(v - 3u)^4$

61) 4th term in expansion of $(x + 3y)^4$

62) 3rd term in expansion of $(u + v)^3$

63) 5th term in expansion of $(u - v)^4$

64) 4th term in expansion of $(3y + x)^3$

65) 1st term in expansion of $(2x - 4y)^3$

66) 4th term in expansion of $(x - 4y)^3$

Expand completely.

67) $(u - v)^3$

68) $(u + v)^4$

69) $(m + 2n)^4$

70) $(y + x)^4$

71) $(2 + b^2)^4$

72) $(4a^3 + 1)^4$

73) $(x^3 + y)^7$

74) $(4x + 1)^2$

75) $(y + 4)^2$

76) $(m + n)^5$

77) $(5y^4 - x)^3$

78) $(2x^4 - 1)^6$

79) $(2y + 1)^6$

80) $(x^4 - y^3)^3$

81) $(x + 2)^7$

82) $(x - y)^4$

83) $(2u^4 + 1)^4$

84) $(x + 2y)^7$

85) $(y - 3x^2)^2$

86) $(3u - 1)^5$

87) $(x - 9y)^2$

88) $(1 - 2b^4)^5$

89) $(2y - x^4)^6$

90) $(5u^2 - 1)^3$

91) $(3v^4 + 1)^3$

92) $(y^4 + 2x)^7$

93) $(1 + 4x^4)^4$

94) $(2y^2 + x)^7$

95) $(6y^4 - 1)^2$

96) $(3v^4 - 1)^4$

97) $(10y^3 + 1)^2$

98) $(2y^3 + x)^5$

99) $(y^3 - 2x^4)^5$

100) $(5m^3 - 1)^3$

Answers to Steve Blades Worksheet

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|---|---|--|---|
| 1) 80 | 2) 12 | 3) 54 | 4) 24 |
| 5) 96 | 6) 16 | 7) $405x$ | 8) $16x^3$ |
| 9) $24v^2$ | 10) $96b^2$ | 11) $80n^2$ | 12) $108u$ |
| 13) $y^4 + 8y^3 + 24y^2 + 32y + 16$ | 14) $x^4 + 16x^3 + 96x^2 + 256x + 256$ | 15) $b^5 + 15b^4 + 90b^3 + 270b^2 + 405b + 243$ | 16) $16 + 32a + 24a^2 + 8a^3 + a^4$ |
| 17) $243 + 405x + 270x^2 + 90x^3 + 15x^4 + x^5$ | 18) $256 + 256a + 96a^2 + 16a^3 + a^4$ | 19) -3 | 20) -108 |
| 21) 15 | 22) 6 | 23) -6 | 24) 75 |
| 25) -4 | 26) -9 | 27) 54 | 28) 150 |
| 29) 54 | 30) 12 | 31) 6 | 32) 27 |
| 33) 96 | 34) 54 | 35) -32 | 36) 48 |
| 37) -108 | 38) 15 | 39) 864 | 40) 54 |
| 41) 75 | 42) 8 | 43) x^3 | 44) $-256x$ |
| 45) $8y^3$ | 46) $54y^2$ | 47) $-12y$ | 48) x^3 |
| 49) a^4 | 50) $64y^3$ | 51) b^3 | 52) $81x^4$ |
| 53) b^3 | 54) $-32y^3$ | 55) $-16m^3$ | 56) $3yx^2$ |
| 57) $32y^3$ | 58) $135yx^2$ | 59) $-48x^2$ | 60) $-12v^3u$ |
| 61) $108xy^3$ | 62) $3uv^2$ | 63) v^4 | 64) x^3 |
| 65) $8x^3$ | 66) $-64y^3$ | 67) $u^3 - 3u^2v + 3uv^2 - v^3$ | 68) $u^4 + 4u^3v + 6u^2v^2 + 4uv^3 + v^4$ |
| 69) $m^4 + 8m^3n + 24m^2n^2 + 32mn^3 + 16n^4$ | 70) $y^4 + 4y^3x + 6y^2x^2 + 4yx^3 + x^4$ | 71) $16 + 32b^2 + 24b^4 + 8b^6 + b^8$ | 72) $256a^{12} + 256a^9 + 96a^6 + 16a^3 + 1$ |
| 73) $x^{21} + 7x^{18}y + 21x^{15}y^2 + 35x^{12}y^3 + 35x^9y^4 + 21x^6y^5 + 7x^3y^6 + y^7$ | 74) $16x^2 + 8x + 1$ | 75) $y^2 + 8y + 16$ | 76) $m^5 + 5m^4n + 10m^3n^2 + 10m^2n^3 + 5mn^4 + n^5$ |
| 77) $125y^{12} - 75y^8x + 15y^4x^2 - x^3$ | 78) $64x^{24} - 192x^{20} + 240x^{16} - 160x^{12} + 60x^8 - 12x^4 + 1$ | 79) $64y^6 + 192y^5 + 240y^4 + 160y^3 + 60y^2 + 12y + 1$ | 80) $x^{12} - 3x^8y^3 + 3x^4y^6 - y^9$ |
| 81) $x^7 + 14x^6 + 84x^5 + 280x^4 + 560x^3 + 672x^2 + 448x + 128$ | 82) $x^4 - 4x^3y + 6x^2y^2 - 4xy^3 + y^4$ | 83) $16u^{16} + 32u^{12} + 24u^8 + 8u^4 + 1$ | 84) $x^7 + 14x^6y + 84x^5y^2 + 280x^4y^3 + 560x^3y^4 + 672x^2y^5 + 448xy^6 + 128y^7$ |
| 85) $y^2 - 6yx^2 + 9x^4$ | 86) $243u^5 - 405u^4 + 270u^3 - 90u^2 + 15u - 1$ | 87) $x^2 - 18xy + 81y^2$ | 88) $1 - 10b^4 + 40b^8 - 80b^{12} + 80b^{16} - 32b^{20}$ |
| 89) $64y^6 - 192y^5x^4 + 240y^4x^8 - 160y^3x^{12} + 60y^2x^{16} - 12yx^{20} + x^{24}$ | 90) $125u^6 - 75u^4 + 15u^2 - 1$ | 91) $27v^{12} + 27v^8 + 9v^4 + 1$ | 92) $y^{28} + 14y^{24}x + 84y^{20}x^2 + 280y^{16}x^3 + 560y^{12}x^4 + 672y^8x^5 + 448y^4x^6 + 128x^7$ |
| 93) $1 + 16x^4 + 96x^8 + 256x^{12} + 256x^{16}$ | 94) $128y^{14} + 448y^{12}x + 672y^{10}x^2 + 560y^8x^3 + 280y^6x^4 + 84y^4x^5 + 14y^2x^6 + x^7$ | 95) $36y^8 - 12y^4 + 1$ | 96) $81v^{16} - 108v^{12} + 54v^8 - 12v^4 + 1$ |
| 97) $100y^6 + 20y^3 + 1$ | 98) $32y^{15} + 80y^{12}x + 80y^9x^2 + 40y^6x^3 + 10y^3x^4 + x^5$ | 99) $y^{15} - 10y^{12}x^4 + 40y^9x^8 - 80y^6x^{12} + 80y^3x^{16} - 32x^{20}$ | 100) $125m^9 - 75m^6 + 15m^3 - 1$ |