계산시 참고사항

1. 단항식의 곱셈: 계수는 계수끼리, 문자는 문자끼리 곱하여 계산한다.
(1) 부호를 결정한다. (2) 계수의 곱을 계산한다. (3) 문자의 곱을 계산한다.

2. 단항식의 나눗셈

(방법1) $A \div B = \frac{A}{B}$ ➡ 분수꼴로 나타낸 다음 계수는 계수끼리, 문자는 문자끼리 계산한다.

(방법2) $A \div B = A \times \frac{1}{B}$ ➡ 역수를 이용하여 나눗셈을 곱셈으로 고쳐서 계산한다.

3. 단항식의 곱셈과 나눗셈의 혼합계산
(1) 괄호가 있는 거듭제곱은 지수법칙 이용하여 괄호를 없앤다.
(2) 나눗셈을 곱셈으로 고친다.(역수 곱하기)
(3) 부호를 결정한 후, 계수는 계수끼리 문자는 문자끼리 곱하여 계산한다.

참고
◉ 계수: 문자를 포함한 항에서 문자에 곱해진 수를 말한다.

단항식의 곱셈

◪ 다음 식을 간단히 하여라.

1. $4x \times (-5y)$

2. $2a \times 4b$

3. $4x \times 5y$

4. $2x^2 \times 6y$

5. $(-3a) \times 2b$

6. $-3x \times (-7y)$

7. $-5ab^2 \times (-2a^2b)$

8. $(-2x) \times 6y$

9. $4a^2 \times (-5b^3)$

10. $5a \times 3a^3$

11. $6ab \times 2b$

12. $3a^3 \times 7b^4$

13. $(-2a)^2 \times (-3a)$

14. $x^2y^2 \times (4xy^2)^2$

15. $5a^2b^5 \times 7ab^4$

16. $(-4x)^2 \times (-6xy)$

17. $4x^2y \times \frac{1}{2}x^3$

18. $(-3xy) \times \left(-\frac{1}{5}x\right)$

19. $(-ab^3) \times (-2a^2b)$

20. $4xy^2 \times \left(-\frac{3}{8}xy\right)$

21. $(-6a^2b^2) \times \left(-\frac{1}{4}ab^3\right)$

22. $(3xy)^2 \times x^2y^3$

23. $(-3a)^2 \times (-2b)^3$

24. $(5xy^3)^2 \times (-x^2y)^2$

25. $ab^3 \times (-2a^2b^3)^3$

26. $2a^2b^3z^2 \times 4a^2b^4z^3$

27. $(-x^2yz^3) \times (-5x^2y^3z^2)$

28. $(-2xy^3z^2) \times 2x^3y^4z^2$

29. $5ab \times (-3a) \times 2b^2$

30. $3x^5 \times 2x^3y^4 \times (-xy^3)$

31. $5x^3y^2 \times (-4xy) \times x^2y^3$

32. $\left(-\frac{b}{2a}\right)^2 \times \left(\frac{3}{ab}\right)^3 \times (-ab)$

33. $4x^2 \times 3xy \times (-xy)^2$

34. $(-2a^2b^3)^2 \times (-2ab^2)^3 \times 3a^3b^2$

35. $(x^2y)^3 \times xy^2 \times (-x^3y)$

36. $(a^3b^2)^2 \times (-a^2) \times (-a^4b)$

37. $(2x)^3 \times (-3xy)^2 \times (-x^2y)^4$

38. $(x^3y)^2 \times y^4 \times (-x^3y) \times (y^2)^3$

39. $(-5a)^2 \times (-ab) \times (ab^2)^3 \times (-b)^3$

단항식의 나눗셈

◪ 다음 식을 간단히 하여라.

40. $6a^3 \div 3a$

41. $36x^3 \div \frac{6}{7}x$

42. $-21x^3y^2 \div (-4xy^3)$

43. $12b^2 \div 6ab^2$

44. $16a^2b \div (-4a)$

45. $(-8x^3y^2) \div 5x^2y^5$

46. $6a^2 \div 2a$

47. $-10xy \div 5x$

48. $(-6a^3) \div \frac{3}{5}a^2$

49. $(x^2y^3)^3 \div (3x^3y)^2$

50. $4x^3 \div \frac{2}{3}x^2$

51. $-8x^2y^3 \div \frac{4}{5}xy^2$

52. $15x^3y^4 \div 5xy^3$

53. $8a^4b^3 \div \left(-\frac{4}{5}a^6b\right)$

54. $3a^8b^3 \div \frac{1}{4}a^4b^2$

55. $3x^2y^2 \div \frac{3}{2}xy^3$

56. $(-2a^2b^3)^3 \div (ab^2)^2$

57. $(-x^3y)^3 \div (-3xy^2)^2$

58. $\left(-\frac{4}{3}a^2b^2\right)^2 \div 2a^3b^3$

59. $\left(-\frac{2}{5}x^2y^3\right)^2 \div (-2x^3y)$

60. $(-36x^6y^3) \div (-4x^4)$

61. $(-27x^5y^3)\div(-9x^3y^7)$

62. $a^4b^3\div(-2a^2b)$

63. $(-9x^3y^2)\div(-3xy)$

64. $(-4a^5b^2)\div\left(-\frac{2}{7}a^3b^2\right)$

65. $(-12x^4y^3)\div\left(-\frac{3}{5}x^2y\right)$

66. $(4x^2)^2\div 2x^3$

67. $(8a^3b^4)^2\div(-4ab^3)^2$

68. $(3a^2b^3)^3\div(-3a^2b^2)^2$

69. $\left(-\frac{2}{3}a^4b^5\right)^2\div\left(-\frac{2}{9}a^3b\right)$

70. $(2a^2b^2)^3\div a^4b^3\div 4ab^2$

71. $6a^3b^7\div(-ab)^2\div 3a$

72. $(-3x^2y^4)^3\div\left(-\frac{6y^2}{x}\right)^2\div(-xy)^2$

73. $12a^3b^2\div 4a^2b^3\div 2ab$

74. $(2a^2b)^3\div a^4b^2\div 6a^2b$

75. $(6x^3)^2\div(-3x)^2\div\frac{1}{2}x^4$

76. $20x^5\div 2x\div(-5x^2)$

77. $6a^2b^4\div 2ab^2\div 3ab$

78. $18x^3\div 2xy^2\div 3y$

79. $7a^4b^6\div(-14a^3b^2)\div\frac{1}{4}b$

80. $5x^4y^2\div 3xy^3\div 4x^2y$

81. $12a^5b^3\div(-3a^2b)\div\left(-\frac{1}{2}ab\right)$

82. $(-9y^7) \div (-y)^4 \div 3y^2$

83. $(-5a^2) \div (-2a)^3 \div \frac{a^2}{4}$

단항식의 혼합계산

◪ 다음 식을 간단히 하여라.

84. $(2x)^2 \times (-x^3) \div 4x^4$

85. $3a^4 \div 6a^3 \times 4a^2$

86. $5x^2 \div 10x^4 \times 2x^3$

87. $-8b^4 \div 2b^3 \times 3b^2$

88. $2x^2 \times 4x^3 \div 8x$

89. $3x^5 \times 4x^3 \div 6x^2$

90. $12ab^5 \times a^2 \div 4ab^2$

91. $(-8x) \div x^3 \times 2x^4$

92. $-x^2 \times (-8x^3) \div 4x^4$

93. $a^3 \times (-6a^4) \div (-3a^5)$

94. $(-2a^2)^2 \times 3a \div 6a$

95. $(-y)^3 \times 4y^2 \div 2y$

96. $(-2x^3) \times (-3x) \div 12x^6$

97. $16a^6 \div (-4a^2) \times a^3$

98. $(-2x^2)^3 \div 6x^4 \times (-3x^2)$

99. $(-3y^3)^2 \div (-2y^2)^3 \times 4y^4$

100. $(3x^2y)^2 \times x^3y^4 \div x^4y^3$

101. $(3a^2b^3)^2 \times 2a^3b \div (-6a^5b^4)$

102. $(2x^2y)^2 \div 8x^3y^4 \times 6x^5y^3$

103. $12x^5y^4 \div (3x^2y)^2 \times 3xy$

104. $(-2x^3y^2)^3 \div 2x^5y^3 \times 3x^2y$

105. $(-xy^2)^3 \times (-2x^3y^2)^2 \div x^5y^4$

106. $(a^3b)^4 \times 5a^2b \div \left(-\frac{1}{2}ab\right)^2$

107. $(a^3)^2 \div a^9 \times (a^3)^4$

108. $3x^2y \div xy \times 4x$

109. $3x^2y \div 2xy \times 4x^2y^3$

110. $15ab^2 \times (-a) \div (-3ab)$

111. $12a^3b^2 \div 4a^2b^3 \times 3ab^2$

112. $x^4y \times (3y^2)^3 \div x^3y^5$

113. $2x^2y \div (3x^2y)^2 \times 4x$

114. $-2x^2y^5 \times (6xy)^2 \div (-3xy^2)^2$

115. $(-2a^3b^2)^3 \times (-a^2b^4)^2 \div (2a^3b)^2$

116. $-\frac{x^7}{3y^3} \times (-3y^4)^2 \div (-x^2y)^3$

117. $-\frac{1}{5}x^2y^2 \div \left(-\frac{3}{5}x^3y\right) \times (-3x^2y^3)^2$

118. $-6a^3b^5 \div \left(\frac{3}{2}a^2b^3\right)^2 \times (-3a^3b^2)^2$

119. $(-3a^3b)^2 \times (2a^2b)^2 \div 6ab^3$

120. $16xy \div x^2y \times \left(\frac{xy}{2}\right)^3$

121. $(-3x^2y)^2 \times (-xy^2)^3 \div (-xy)^2$

122. $(ab^2)^3 \times \left(\frac{b^2}{a}\right)^3 \div a^2b^3$

123. $(-2xy)^3 \div (-x^3y^2)^2 \times \frac{3y^2}{4x^4}$

124. $2a^2b \div \left(-\frac{2}{3}a^3b\right) \times 3ab^2$

정답 및 해설

1) $-20xy$

2) $8ab$

3) $20xy$
⇨ $4x\times 5y=(4\times 5)\times(x\times y)=20xy$

4) $12x^2y$
⇨ $2x^2\times 6y=(2\times 6)\times(x^2\times y)=12x^2y$

5) $-6ab$

6) $21xy$

7) $10a^3b^3$
⇨ $-5ab^2\times(-2a^2b)=(-5)\times(-2)\times a^{1+2}b^{2+1}=10a^3b^3$

8) $-12xy$

9) $-20a^2b^3$

10) $15a^4$
⇨ $5a\times 3a^3=(5\times 3)\times(a\times a^3)=15a^4$

11) $12ab^2$
⇨ $6ab\times 2b=(6\times 2)\times(ab\times b)=12ab^2$

12) $21a^3b^4$
⇨ $3a^3\times 7b^4=(3\times 7)\times(a^3\times b^4)=21a^3b^4$

13) $-12a^3$
⇨ $(-2a)^2\times(-3a)=4a^2\times(-3a)=-12a^3$

14) $16x^4y^6$
⇨ $x^2y^2\times(4xy^2)^2=x^2y^2\times 16x^2y^4=16x^4y^6$

15) $35a^3b^9$

16) $-96x^3y$
⇨ (주어진 식)$=16x^2\times(-6xy)=-96x^3y$

17) $2x^5y$
⇨ $4x^2y\times\frac{1}{2}x^3=\left(4\times\frac{1}{2}\right)\times(x^2y\times x^3)=2x^5y$

18) $\frac{3}{5}x^2y$

19) $2a^3b^4$

20) $-\frac{3}{2}x^2y^3$

21) $\frac{3}{2}a^3b^5$

22) $9x^4y^5$
⇨ $(3xy)^2\times x^2y^3=9x^2y^2\times x^2y^3=9x^4y^5$

23) $-72a^2b^3$
⇨ $(-3a)^2\times(-2b)^3=9a^2\times(-8b^3)=-72a^2b^3$

24) $25x^6y^8$
⇨ $(5xy^3)^2\times(-x^2y)^2=25x^2y^6\times x^4y^2=25x^6y^8$

25) $-8a^7b^{12}$
⇨ $ab^3\times(-2a^2b^3)^3=ab^3\times(-8a^6b^9)=-8a^7b^{12}$

26) $8a^4b^7z^5$

27) $5x^4y^4z^5$

28) $-4x^4y^7z^4$

29) $-30a^2b^3$

30) $-6x^9y^7$

31) $-20x^6y^6$

32) $-\frac{27}{4a^4}$
⇨ (주어진 식)$=\frac{b^2}{4a^2}\times\frac{27}{a^3b^3}\times(-ab)=-\frac{27}{4a^4}$

33) $12x^5y^3$
⇨ $4x^2\times 3xy\times(-xy)^2$
$=4x^2\times 3xy\times x^2y^2$
$=(4\times 3\times 1)\times(x^2\times x\times x^2)\times(y\times y^2)$
$=12x^5y^3$

34) $-96a^{10}b^{14}$

35) $-x^{10}y^6$
⇨ $(x^2y)^3\times xy^2\times(-x^3y)=x^6y^3\times xy^2\times(-x^3y)=-x^{10}y^6$

36) $a^{12}b^5$
⇨ (주어진 식)$=a^6b^4\times(-a^2)\times(-a^4b)=a^{12}b^5$

37) $72x^{13}y^6$
⇨ (주어진 식)$=8x^3\times 9x^2y^2\times x^8y^4=72x^{13}y^6$

38) $-x^9y^{13}$

⇨ (주어진 식)$=x^6y^2\times y^4\times(-x^3y)\times y^6=-x^9y^{13}$

39) $25a^6b^{10}$

⇨ (주어진 식)$=25a^2\times(-ab)\times a^3b^6\times(-b)^3=25a^6b^{10}$

40) $2a^2$

⇨ (주어진 식)$=\dfrac{6a^3}{3a}=2a^2$

41) $42x^2$

⇨ (주어진 식)$=36x^3\times\dfrac{7}{6x}=42x^2$

42) $\dfrac{21x^2}{4y}$

⇨ (주어진 식)$=\dfrac{-21x^3y^2}{-4xy^3}=\dfrac{21x^2}{4y}$

43) $\dfrac{2}{a}$

44) $-4ab$

45) $-\dfrac{8x}{5y^3}$

46) $3a$

47) $-2y$

48) $-10a$

⇨ $(-6a^3)\div\dfrac{3}{5}a^2=(-6a^3)\times\dfrac{5}{3a^2}=-10a$

49) $\dfrac{y^7}{9}$

⇨ (주어진 식)$=x^6y^9\div9x^6y^2=\dfrac{x^6y^9}{9x^6y^2}=\dfrac{y^7}{9}$

50) $6x$

⇨ $4x^3\div\dfrac{2}{3}x^2=4x^3\times\dfrac{3}{2x^2}=6x$

51) $-10xy$

⇨ $-8x^2y^3\div\dfrac{4}{5}xy^2=-8x^2y^3\times\dfrac{5}{4xy^2}=-10xy$

52) $3x^2y$

53) $-\dfrac{10b^2}{a^2}$

⇨ $8a^4b^3\div\left(-\dfrac{4}{5}a^6b\right)=8a^4b^3\times\left(-\dfrac{5}{4a^6b}\right)=-\dfrac{10b^2}{a^2}$

54) $12a^4b$

⇨ $3a^8b^3\div\dfrac{1}{4}a^4b^2=3a^8b^3\times\dfrac{4}{a^4b^2}=12a^4b$

55) $\dfrac{2x}{y}$

⇨ $3x^2y^2\div\dfrac{3}{2}xy^3=3x^2y^2\times\dfrac{2}{3xy^3}=\dfrac{2x}{y}$

56) $-8a^4b^5$

57) $-\dfrac{x^7}{9y}$

58) $\dfrac{8}{9}ab$

59) $-\dfrac{2}{25}xy^5$

60) $9x^2y^3$

61) $\dfrac{3x^2}{y^4}$

62) $-\dfrac{1}{2}a^2b^2$

63) $3x^2y$

64) $14a^2$

⇨ $(-4a^5b^2)\div\left(-\dfrac{2}{7}a^3b^2\right)=(-4a^5b^2)\times\left(-\dfrac{7}{2a^3b^2}\right)=14a^2$

65) $20x^2y^2$

⇨ $(-12x^4y^3)\div\left(-\dfrac{3}{5}x^2y\right)=(-12x^4y^3)\times\left(-\dfrac{5}{3x^2y}\right)=20x^2y^2$

66) $8x$

⇨ $(4x^2)^2\div2x^3=16x^4\div2x^3=\dfrac{16x^4}{2x^3}=8x$

67) $4a^4b^2$

⇨ $(8a^3b^4)^2\div(-4ab^3)^2=\dfrac{64a^6b^8}{16a^2b^6}=4a^4b^2$

68) $3a^2b^5$

⇨ $(3a^2b^3)^3\div(-3a^2b^2)^2=\dfrac{27a^6b^9}{9a^4b^4}=3a^2b^5$

69) $-2a^5b^9$

⇨ $\left(-\dfrac{2}{3}a^4b^5\right)^2\div\left(-\dfrac{2}{9}a^3b\right)=\dfrac{4}{9}a^8b^{10}\div\left(-\dfrac{2}{9}a^3b\right)$

$=\dfrac{4}{9}a^8b^{10}\times\left(-\dfrac{9}{2a^3b}\right)$

$=-2a^5b^9$

70) $2ab$

71) $2b^5$

⇨ $6a^3b^7 \div (-ab)^2 \div 3a$

$= 6a^3b^7 \div a^2b^2 \div 3a$

$= 6a^3b^7 \times \frac{1}{a^2b^2} \times \frac{1}{3a}$

$= 2b^5$

72) $-\frac{3}{4}x^6y^6$

⇨ $(-3x^2y^4)^3 \div \left(-\frac{6y^2}{x}\right)^2 \div (-xy)^2$

$= (-27x^6y^{12}) \div \frac{36y^4}{x^2} \div x^2y^2$

$= (-27x^6y^{12}) \times \frac{x^2}{36y^4} \times \frac{1}{x^2y^2}$

$= -\frac{3}{4}x^6y^6$

73) $\frac{3}{2b^2}$

⇨ (주어진 식) $= 12a^3b^2 \times \frac{1}{4a^2b^3} \times \frac{1}{2ab} = \frac{3}{2b^2}$

74) $\frac{4}{3}$

⇨ (주어진 식) $= 8a^6b^3 \times \frac{1}{a^4b^2} \times \frac{1}{6a^2b} = \frac{4}{3}$

75) 8

⇨ $(6x^3)^2 \div (-3x)^2 \div \frac{1}{2}x^4 = 36x^6 \div 9x^2 \div \frac{1}{2}x^4$

$= 36x^6 \times \frac{1}{9x^2} \times \frac{2}{x^4} = 8$

76) $-2x^2$

⇨ (주어진 식) $= 20x^5 \times \frac{1}{2x} \times \left(-\frac{1}{5x^2}\right) = -2x^2$

77) b

⇨ (주어진 식) $= 6a^2b^4 \times \frac{1}{2ab^2} \times \frac{1}{3ab} = b$

78) $\frac{3x^2}{y^3}$

⇨ (주어진 식) $= 18x^3 \times \frac{1}{2xy^2} \times \frac{1}{3y} = \frac{3x^2}{y^3}$

79) $-2ab^3$

⇨ (주어진 식) $= 7a^4b^6 \times \left(-\frac{1}{14a^3b^2}\right) \times \frac{4}{b} = -2ab^3$

80) $\frac{5x}{12y^2}$

⇨ (주어진 식) $= 5x^4y^2 \times \frac{1}{3xy^3} \times \frac{1}{4x^2y} = \frac{5x}{12y^2}$

81) $8a^2b$

⇨ (주어진 식) $= 12a^5b^3 \times \left(-\frac{1}{3a^2b}\right) \times \left(-\frac{2}{ab}\right) = 8a^2b$

82) $-3y$

⇨ (주어진 식) $= (-9y^7) \times \frac{1}{y^4} \times \frac{1}{3y^2} = -3y^2$

83) $\frac{5}{2a^3}$

⇨ (주어진 식) $= (-5a^2) \div (-8a^3) \div \frac{a^2}{4}$

$= (-5a^2) \times \left(-\frac{1}{8a^3}\right) \times \frac{4}{a^2} = \frac{5}{2a^3}$

84) $-x$

85) $2a^3$

86) x

⇨ $5x^2 \div 10x^4 \times 2x^3 = 5x^2 \times \frac{1}{10x^4} \times 2x^3 = x$

87) $-12b^3$

⇨ $-8b^4 \div 2b^3 \times 3b^2 = -8b^4 \times \frac{1}{2b^3} \times 3b^2 = -12b^3$

88) x^4

89) $2x^6$

90) $3a^2b^3$

⇨ (주어진 식) $= 12ab^5 \times a^2 \times \frac{1}{4ab^2} = 3a^2b^3$

91) $-16x^2$

⇨ (주어진 식) $= (-8x) \times \frac{1}{x^3} \times 2x^4 = -16x^2$

92) $2x$

⇨ $-x^2 \times (-8x^3) \div 4x^4 = -x^2 \times (-8x^3) \times \frac{1}{4x^4} = 2x$

93) $2a^2$

94) $2a^4$

95) $-2y^4$

⇨ $(-y)^3\times 4y^2\div 2y=-y^3\times 4y^2\times\frac{1}{2y}=-2y^4$

96) $\frac{1}{2x^2}$

⇨ $(-2x^3)\times(-3x)\div 12x^6$

$=(-2x^3)\times(-3x)\times\frac{1}{12x^6}=\frac{1}{2x^2}$

97) $-4a^7$

98) $4x^4$

99) $-\frac{9}{2}y^4$

⇨ $(-3y^3)^2\div(-2y^2)^3\times 4y^4$

$=9y^6\div(-8y^6)\times 4y^4$

$=9y^6\times\left(-\frac{1}{8y^6}\right)\times 4y^4$

$=-\frac{9}{2}y^4$

100) $9x^3y^3$

101) $-3a^2b^3$

⇨ $(3a^2b^3)^2\times 2a^3b\div(-6a^5b^4)$

$=9a^4b^6\times 2a^3b\times\left(-\frac{1}{6a^5b^4}\right)$

$=-3a^2b^3$

102) $3x^6y$

⇨ $(2x^2y)^2\div 8x^3y^4\times 6x^5y^3$

$=4x^4y^2\times\frac{1}{8x^3y^4}\times 6x^5y^3=3x^6y$

103) $4x^2y^3$

⇨ $12x^5y^4\div(3x^2y)^2\times 3xy$

$=12x^5y^4\div 9x^4y^2\times 3xy$

$=12x^5y^4\times\frac{1}{9x^4y^2}\times 3xy$

$=4x^2y^3$

104) $-12x^6y^4$

105) $-4x^4y^6$

106) $20a^{12}b^3$

⇨ (주어진 식)$=a^{12}b^4\times 5a^2b\times\frac{4}{a^2b^2}=20a^{12}b^3$

107) a^9

⇨ (주어진 식)$=a^6\times\frac{1}{a^9}\times a^{12}=a^9$

108) $12x^2$

⇨ (주어진 식)$=3x^2y\times\frac{1}{xy}\times 4x=12x^2$

109) $6x^3y^3$

⇨ (주어진 식)$=3x^2y\times\frac{1}{2xy}\times 4x^2y^3=6x^3y^3$

110) $5ab$

⇨ (주어진 식)$=15ab^2\times(-a)\times\frac{1}{-3ab}=5ab$

111) $9a^2b$

⇨ (주어진 식)$=12a^3b^2\times\frac{1}{4a^2b^3}\times 3ab^2=9a^2b$

112) $27xy^2$

⇨ (주어진 식)$=x^4y\times 27y^6\times\frac{1}{x^3y^5}=27xy^2$

113) $\frac{8}{9xy}$

⇨ (주어진 식)$=2x^2y\times\frac{1}{9x^4y^2}\times 4x=\frac{8}{9xy}$

114) $-8x^2y^3$

115) $-2a^7b^{12}$

⇨ $(-2a^3b^2)^3\times(-a^2b^4)^2\div(2a^3b)^2$

$=-8a^9b^6\times a^4b^8\div 4a^6b^2$

$=-8a^9b^6\times a^4b^8\times\frac{1}{4a^6b^2}=-2a^7b^{12}$

116) $3xy^2$

117) $3x^3y^7$

⇨ $-\frac{1}{5}x^2y^2\div\left(-\frac{3}{5}x^3y\right)\times(-3x^2y^3)^2$

$=-\frac{1}{5}x^2y^2\times-\frac{5}{3x^3y}\times 9x^4y^6=3x^3y^7$

118) $-24a^5b^3$

⇨ $-6a^3b^5\div\left(\frac{3}{2}a^2b^3\right)^2\times(-3a^3b^2)^2$

$=-6a^3b^5\div\frac{9}{4}a^4b^6\times 9a^6b^4$

$=-6a^3b^5\times\frac{4}{9a^4b^6}\times 9a^6b^4$

$=-24a^5b^3$

119) $6a^9b$

⇨ (주어진 식)$=9a^6b^2\times 4a^4b^2\times\frac{1}{6ab^3}=6a^9b$

120) $2x^2y^3$

⇨ (주어진 식)$=16xy\times\frac{1}{x^2y}\times\frac{x^3y^3}{8}=2x^2y^3$

121) $-9x^5y^6$

⇨ (주어진 식)$=9x^4y^2\times(-x^3y^6)\times\frac{1}{x^2y^2}=-9x^5y^6$

122) $\frac{b^9}{a^2}$

⇨ (주어진 식)$=a^3b^6\times\frac{b^6}{a^3}\times\frac{1}{a^2b^3}=\frac{b^9}{a^2}$

123) $-\frac{6y}{x^7}$

⇨ (주어진 식)$=-8x^3y^3\times\frac{1}{x^6y^4}\times\frac{3y^2}{4x^4}=-\frac{6y}{x^7}$

124) $-9b^2$

⇨ (주어진 식)$=2a^2b\times\left(-\frac{3}{2a^3b}\right)\times3ab^2=-9b^2$