FPC10 Exponents - Extra Practice

Mr. Singh 05/09/2017

Simplify.

1. $\left(\frac{a}{3b}\right)^3$

2. $\left(-\frac{2c}{d}\right)^6$

3. $\left(-\frac{1}{2d}\right)^5$

4. $\left(\frac{w^2}{xy^3}\right)^6$

5. $\left(\frac{c^5}{k^2m}\right)^3$

6. $\frac{y^8}{(y^2)(y^3)}$

7. $\frac{r^4m^7}{(r^2m)(r^4m^3)}$

8. $\frac{(a^2x^5)(-ax^4)}{(a^3x^7)}$

9. $\frac{(-x^4)^2}{-x^4}$

10. $\frac{(-k^2)^3}{(-k^3)^2}$

11. $\frac{ab^4(-a^3b)^2}{(-ab^2)^3}$

12. $-(-12)^0$

13. $5 \cdot 10^{-3}$

14. $(10^{-3})(5^3)$

15. $(-3)^{-4}$

16. -3^{-5}

17. $(10-5)^{-3}$

18. $2^2 - 2^{-2}$

19. $\left[(-5)^3\right]^0$

20. $(4 \cdot 2^0)^{-3}$

21. $\left(\frac{3}{2}\right)^{-3}$

22. $\dfrac{8^{-1}}{2^{-3}}$

23. $\left[\left(\dfrac{2}{3}\right)^{-2}\right]^{-2}$

24. $\dfrac{4^{-1}}{1+2^{-1}}$

25. $\dfrac{1}{3^{-1}-4^{-1}}$

26. $\dfrac{4^{-1}+2^{-2}}{4^{-2}+2^{-4}}$

27. $-x^{-3}\cdot 7x^{0}$

28. $-7ay^{3}\cdot 5a^{-1}y^{-2}$

29. $(2x^{0}y^{-3})^{-4}$

30. $(2d^{-2})^{-2}(-d^{2})^{3}$

31. $\dfrac{x^{3}y^{-4}}{x^{-1}y^{-4}}$

32. $\dfrac{21x^{2}y^{0}z^{-1}}{3x^{-3}y^{6}z^{-2}}$

33. $\dfrac{(m^{2}r^{2})^{-4}(mr^{-6})^{-3}}{(-m^{-5}r^{4})^{3}(m^{4}r^{6})^{-2}}$

34. $\left[\dfrac{5^{-3}c^{-4}d^{-2}}{5^{-1}cd^{-4}}\right]^{-2}$

35. Evaluate: $\dfrac{(4^{5}\times 4^{-2})^{2}}{4^{4}}$

a) $\frac{1}{16}$ b) $\frac{1}{4}$ c) 4 d) 8 e) 16

36. Evaluate: $\left(\dfrac{4^{-1}}{4^{-2}}\right)^{-3}$

a) -12 b) $\frac{1}{64}$ c) $\frac{1}{12}$ d) 12 e) 64

37. Evaluate: $(3^{-1}+5^{-1})^{-1}$

a) -8 b) $-\frac{1}{8}$ c) $\frac{15}{8}$ d) $\frac{8}{3}$ e) 8

38. Simplify and rewrite using only positive exponents: $\dfrac{(x^{-3})^{6}}{x^{-11}}$

a) $\dfrac{x^{-18}}{x^{-11}}$ b) $\dfrac{x^{11}}{x^{18}}$ c) $\dfrac{1}{x^{7}}$

d) x^{7} e) x^{8}

39. Simplify and rewrite using only positive exponents: $\left(\dfrac{x^{2}}{y^{3}}\right)^{-2}$

a) $\dfrac{x^{4}}{y^{6}}$ b) $\dfrac{y^{6}}{x^{4}}$ c) $\dfrac{1}{y^{6}}$ d) y^{6} e) $\dfrac{y^{3}}{x^{2}}$

40. Simplify: $\dfrac{6^{-24x}}{6^{-3x}}$

a) 6^{-27x} b) 6^{-21x} c) 6^{-8x}

d) 1^{8} e) 6^{8}

41. Simplify: $\dfrac{-20x^{-20}}{-5x^{-5}}$

a) $-25x^{-25}$ b) $-15x^{-15}$ c) $4x^{-15}$

d) $4x^{-5}$ e) $4x^{4}$

42. Simplify: $\dfrac{-24x^{-24}y^{-12}}{4x^{-6}y^{-3}}$

a) $-6x^{-18}y^{-9}$ b) $-6x^{4}y^{4}$

c) $-6x^{-30}y^{-15}$ d) $-28x^{-18}y^{-9}$

e) $-6x^{18}y^{9}$

43. Simplify: $\left(\dfrac{2xy^{4}}{6x^{3}y}\right)^{2}$

a) $\dfrac{y^{14}}{9x^{7}}$ b) $\dfrac{y^{6}}{9x^{4}}$ c) $\dfrac{y^{9}}{9x^{4}}$ d) $\dfrac{y^{6}}{6x^{4}}$ e) $\dfrac{y^{9}}{6x^{4}}$

44. Simplify: $\dfrac{x^{4}+x^{6}}{x^{5}}$

a) x^{5} b) 1 c) $\dfrac{1+x^{2}}{x}$

d) x^{5} e) $\dfrac{1}{x}+x^{2}$

45. Simplify: $\dfrac{x^{-4}+x^{-5}}{x^{-4}}$

a) $1+x$ b) x c) 2

d) 3 e) $1+\dfrac{1}{x}$

Simplify.

46. $\left(\dfrac{a}{3b}\right)^{3}$

47. $\left(-\dfrac{r}{2w}\right)^{5}$

48. $\left(-\dfrac{1}{2d}\right)^{5}$

49. $\left(\dfrac{ab}{10}\right)^{3}$

50. $\left(\dfrac{w^{2}}{xy^{3}}\right)^{6}$

51. $\left(-\dfrac{a^{3}b}{c^{2}}\right)^{4}$

52. $\left(\dfrac{2r^{2}}{3p}\right)^{4}$

53. $\dfrac{(a^{5})(a^{6})}{a^{9}}$

54. $\dfrac{x^3}{(x^6)(x)}$

55. $\dfrac{(x^2y^6)(x^2y)}{x^5y^6}$

56. $\dfrac{(g^3k)(gh^5k^2)}{g^2hk^3}$

57. $\dfrac{r^9p^3}{(rp^6)(-r^3p^4)}$

58. $\dfrac{-a^3}{(-a^3)^2}$

59. $\dfrac{(-k^2)^3}{(-k^3)^2}$

60. $\dfrac{(x^2y^3)^5}{(-x^2y)^6}$

61. $\dfrac{(9p^2w)^2}{(6p^2w^3)^2}$

62. $\dfrac{ab^4(-a^3b)^2}{(-ab^2)^3}$

63. $-(-12)^0$

64. $-(0.7)^0$

65. $5 \cdot 10^{-3}$

66. $(10^{-3})(5^3)$

67. -5^{-4}

68. -12^{-1}

69. $(1+1)^{-5}$

70. $2^{-2} + 2^2$

71. $(3^0)^{-4}$

72. $(3^0 \cdot 12)^{-2}$

73. $3^{-2} \cdot 9^0$

74. $\dfrac{2^{-2}}{-8}$

75. $\left(\dfrac{1}{2}\right)^{-4}$

76. $\left(\dfrac{3}{2}\right)^{-3}$

77. $\left[\left(\frac{2}{3}\right)^{-2}\right]^{-2}$

78. $\frac{4^{-1}}{1+2^{-1}}$

79. $\frac{1}{3^{-1}-4^{-1}}$

80. $\frac{4^{-1}+2^{-2}}{4^{-2}+2^{-4}}$

81. $\left(\frac{2^{-1}}{3^{-1}}+2^{-1}\right)^{-3}$

82. $(w^0)(w^{-9})$

83. $x^{-7}\cdot x$

84. $(3n^{-1})(-5n^{-3})$

85. $(-4c^{-7}d^4)(-2c^2d^{-5})$

86. $(-3u^{-5}w^0)(5u^5w^{-6})$

87. $(7a^{-2}b^{-1})^{-2}$

88. $(5t^{-2})^2(10t)^{-1}$

89. $(x^2y^3)^0(5x^2y)^{-3}$

90. $(3w^2y^{-3})^{-1}(6w^2y)^{-2}$

91. $\frac{x^3y^{-4}}{x^{-1}y^{-4}}$

92. $\frac{21x^2y^0z^{-1}}{3x^{-3}y^6z^{-2}}$

93. $\frac{(-4m^3)^2(n^{-2})^2}{(2^{-1})^2m^4n^{-8}}$

94. $\left[\frac{12^{-1}x^3y^{-3}}{2^{-3}x^{-1}y^{-6}}\right]^{-3}$

95. $\left[\frac{5^{-3}c^{-4}d^{-2}}{5^{-1}cd^{-4}}\right]^{-2}$

96. $\left(\frac{7m-4mn^0}{12m}\right)^{-2}$

97. Evaluate: $\frac{(3^8\times 3^{-3})^4}{(3^4)^5}$

a) $\frac{1}{27}$ b) $\frac{1}{3}$ c) 1 d) 6 e) 9

98. Evaluate: $(3^{-2}+5^{-2})^{-1}$

a) -34 b) $-\frac{1}{34}$ c) $\frac{34}{225}$ d) $\frac{225}{34}$ e) 34

99. Simplify: $(-3x^{-2}y^4)^{-2}$

a) $-\frac{1}{9}x^4y^{-8}$ b) $\frac{1}{9}x^4y^{-8}$ c) $6x^{-4}y^{-8}$

d) $9x^{-4}y^2$ e) $9x^4y^{-8}$

100. Simplify and rewrite using only positive exponents: $\dfrac{(x^{-3})^6}{x^{-11}}$

a) $\dfrac{x^{-18}}{x^{-11}}$ b) $\dfrac{x^{11}}{x^{18}}$ c) $\dfrac{1}{x^7}$

d) x^7 e) x^8

101. Simplify and rewrite using only positive exponents: $\dfrac{(x^{-3})^4}{x^{-17}}$

a) $\dfrac{x^{-12}}{x^{-17}}$ b) $\dfrac{1}{x^5}$ c) $\dfrac{x^{17}}{x^{12}}$

d) x^2 e) x^5

102. Simplify: $\dfrac{x^{-4}+x^{-5}}{x^{-4}}$

a) $1+x$ b) x c) 2

d) 3 e) $1+\dfrac{1}{x}$

103. Simplify: $\dfrac{x^{-4}+x^{-6}}{x^{-3}}$

a) $x+x^3$ b) x^4 c) $\dfrac{1}{x}+\dfrac{1}{x^3}$

d) $1+3x$ e) $\dfrac{1}{1+x^3}$

104. $\dfrac{4^x \cdot 8^{x+4}}{16^{x+1}} =$

a) 2^{x+3} b) 2^{x+8} c) 2^{2x+3}

d) 2^{2x+8} e) 2^{6x^2+8x-4}

105. $\dfrac{3^{2x} \cdot 27^{2x+4}}{9^{x+2}} =$

a) 3^{3x+2} b) 3^{3x+4} c) 3^{6x+8}

d) 3^{6x+4} e) $3^{24x^2+30x-4}$

FPC10 Exponents - Extra Practice Mr. Singh 05/09/2017

1.
Answer: $\frac{a^3}{27b^3}$
CodePath: EAS.ALG.B.E.1

2.
Answer: $\frac{64c^6}{d^6}$
CodePath: EAS.ALG.B.E.2

3.
Answer: $-\frac{1}{32d^5}$
CodePath: EAS.ALG.B.E.8

4.
Answer: $\frac{w^{12}}{x^6y^{18}}$
CodePath: EAS.ALG.B.E.13

5.
Answer: $\frac{c^{15}}{k^6m^3}$
CodePath: EAS.ALG.B.E.16

6.
Answer: y^3
CodePath: EAS.ALG.B.E.22

7.
Answer: $\frac{m^3}{r^2}$
CodePath: EAS.ALG.B.E.30

8.
Answer: $-x^2$
CodePath: EAS.ALG.B.E.36

9.
Answer: $-x^4$
CodePath: EAS.ALG.B.E.45

10.
Answer: -1
CodePath: EAS.ALG.B.E.48

11.
Answer: $-a^4$
CodePath: EAS.ALG.B.E.63

12.
Answer: -1
CodePath: EAS.ALG.B.G.11

13.
Answer: $\frac{1}{200}$
CodePath: EAS.ALG.B.G.15

14.
Answer: $\frac{1}{8}$
CodePath: EAS.ALG.B.G.18

15.
Answer: $\frac{1}{81}$
CodePath: EAS.ALG.B.G.23

16.
Answer: $-\frac{1}{243}$
CodePath: EAS.ALG.B.G.28

17.
Answer: $\frac{1}{125}$
CodePath: EAS.ALG.B.G.32

18.
Answer: $\frac{15}{4}$
CodePath: EAS.ALG.B.G.36

19.
Answer: 1
CodePath: EAS.ALG.B.G.40

20.
Answer: $\frac{1}{64}$
CodePath: EAS.ALG.B.G.43

21.
Answer: $\frac{8}{27}$
CodePath: EAS.ALG.B.G.56

22.
Answer: 1
CodePath: EAS.ALG.B.G.60

23.
Answer: $\frac{16}{81}$
CodePath: EAS.ALG.B.G.68

24.
Answer: $\frac{1}{6}$
CodePath: EAS.ALG.B.G.74

25.
Answer: 12
CodePath: EAS.ALG.B.G.75

26.
Answer: 4
CodePath: EAS.ALG.B.G.78

27.
Answer: $-\frac{7}{x^3}$
CodePath: EAS.ALG.B.G.99

28.
Answer: $-35y$
CodePath: EAS.ALG.B.G.107

29.
Answer: $\frac{y^{12}}{16}$
CodePath: EAS.ALG.B.G.117

30.
Answer: $-\frac{d^{10}}{4}$
CodePath: EAS.ALG.B.G.127

31.
Answer: x^4
CodePath: EAS.ALG.B.G.150

32.
Answer: $\frac{7x^5z}{y^6}$
CodePath: EAS.ALG.B.G.156

33.
Answer: $-m^{12}r^{10}$
CodePath: EAS.ALG.B.G.178

34.
Answer: $\frac{625c^{10}}{d^4}$
CodePath: EAS.ALG.B.G.183

35.
Answer: e
CodePath: EAS.CM2.A.C.21

36.
Answer: b
CodePath: EAS.CM2.A.C.26

37.
Answer: c
CodePath: EAS.CM2.A.C.30

38.
Answer: c
CodePath: EAS.CM2.A.C.42

39.
Answer: b
CodePath: EAS.CM2.A.C.45

40.
Answer: b
CodePath: EAS.CM2.A.C.66

41.
Answer: c
CodePath: EAS.CM2.A.C.68

42.
Answer: a
CodePath: EAS.CM2.A.C.81

43.
Answer: b
CodePath: EAS.CM2.A.C.84

44.
Answer: c
CodePath: EAS.CM2.A.C.94

45.
Answer: e
CodePath: EAS.CM2.A.C.95

46.
Answer: $\frac{a^3}{27b^3}$
CodePath: EAS.ALG.B.E.1

47.
Answer: $-\frac{r^5}{32w^5}$
CodePath: EAS.ALG.B.E.3

48.
Answer: $-\frac{1}{32d^5}$
CodePath: EAS.ALG.B.E.8

49.
Answer: $\frac{a^3b^3}{1000}$
CodePath: EAS.ALG.B.E.11

50.
Answer: $\frac{w^{12}}{x^6y^{18}}$
CodePath: EAS.ALG.B.E.13

51.
Answer: $\frac{a^{12}b^4}{c^8}$
CodePath: EAS.ALG.B.E.15

52.
Answer: $\frac{16r^8}{81p^4}$
CodePath: EAS.ALG.B.E.20

53.
Answer: a^2
CodePath: EAS.ALG.B.E.21

54.
Answer: $\frac{1}{x^4}$
CodePath: EAS.ALG.B.E.24

55.
Answer: $\frac{y}{x}$
CodePath: EAS.ALG.B.E.29

56.
Answer: g^2h^4
CodePath: EAS.ALG.B.E.31

57.
Answer: $-\frac{r^5}{p^7}$
CodePath: EAS.ALG.B.E.34

58.
Answer: $-\frac{1}{a^3}$
CodePath: EAS.ALG.B.E.46

59.
Answer: -1
CodePath: EAS.ALG.B.E.48

60.
Answer: $\frac{y^9}{x^2}$
CodePath: EAS.ALG.B.E.55

61.
Answer: $\frac{9}{4w^4}$
CodePath: EAS.ALG.B.E.60

62.
Answer: $-a^4$
CodePath: EAS.ALG.B.E.63

63.
Answer: -1
CodePath: EAS.ALG.B.G.11

64.
Answer: -1
CodePath: EAS.ALG.B.G.12

65.
Answer: $\frac{1}{200}$
CodePath: EAS.ALG.B.G.15

66.
Answer: $\frac{1}{8}$
CodePath: EAS.ALG.B.G.18

67.
Answer: $-\frac{1}{625}$
CodePath: EAS.ALG.B.G.25

68.
Answer: $-\frac{1}{12}$
CodePath: EAS.ALG.B.G.27

69.
Answer: $\frac{1}{32}$
CodePath: EAS.ALG.B.G.30

70.
Answer: $\frac{17}{4}$
CodePath: EAS.ALG.B.G.35

71.
Answer: 1
CodePath: EAS.ALG.B.G.39

72.
Answer: $\frac{1}{144}$
CodePath: EAS.ALG.B.G.42

73.
Answer: $\frac{1}{9}$
CodePath: EAS.ALG.B.G.44

74.
Answer: $-\frac{1}{32}$
CodePath: EAS.ALG.B.G.49

75.
Answer: 16
CodePath: EAS.ALG.B.G.55

76.
Answer: $\frac{8}{27}$
CodePath: EAS.ALG.B.G.56

77.
Answer: $\frac{16}{81}$
CodePath: EAS.ALG.B.G.68

78.
Answer: $\frac{1}{6}$
CodePath: EAS.ALG.B.G.74

79.
Answer: 12
CodePath: EAS.ALG.B.G.75

80.
Answer: 4
CodePath: EAS.ALG.B.G.78

81.
Answer: $\frac{1}{8}$
CodePath: EAS.ALG.B.G.79

82.
Answer: $\frac{1}{w^9}$
CodePath: EAS.ALG.B.G.92

83.
Answer: $\frac{1}{x^6}$
CodePath: EAS.ALG.B.G.96

84.
Answer: $-\frac{15}{n^4}$
CodePath: EAS.ALG.B.G.98

85.
Answer: $\frac{8}{c^5d}$
CodePath: EAS.ALG.B.G.103

86.
Answer: $-\frac{15}{w^6}$
CodePath: EAS.ALG.B.G.104

87.
Answer: $\frac{a^4b^2}{49}$
CodePath: EAS.ALG.B.G.118

88.
Answer: $\frac{5}{2t^5}$
CodePath: EAS.ALG.B.G.122

89.
Answer: $\frac{1}{125x^6y^3}$
CodePath: EAS.ALG.B.G.129

90.
Answer: $\frac{y}{108w^6}$
CodePath: EAS.ALG.B.G.131

91.
Answer: x^4
CodePath: EAS.ALG.B.G.150

92.
Answer: $\frac{7x^5z}{y^6}$
CodePath: EAS.ALG.B.G.156

93.
Answer: $64m^2n^4$
CodePath: EAS.ALG.B.G.171

94.
Answer: $\frac{27}{8x^{12}y^9}$
CodePath: EAS.ALG.B.G.184

95.
Answer: $\frac{625c^{10}}{d^4}$
CodePath: EAS.ALG.B.G.183

96.
Answer: 16
CodePath: EAS.ALG.B.G.196

97.
Answer: c
CodePath: EAS.CM2.A.C.24

98.
Answer: d
CodePath: EAS.CM2.A.C.32

99.
Answer: b
CodePath: EAS.CM2.A.C.38

100.
Answer: c
CodePath: EAS.CM2.A.C.42

101.
Answer: e
CodePath: EAS.CM2.A.C.44

102.
Answer: e
CodePath: EAS.CM2.A.C.95

103.
Answer: c
CodePath: EAS.CM2.A.C.97

104.
Answer: b
CodePath: EAS.CM2.A.C.105

105.
Answer: c
CodePath: EAS.CM2.A.C.106