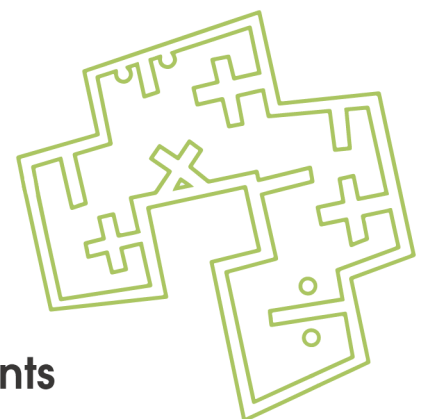
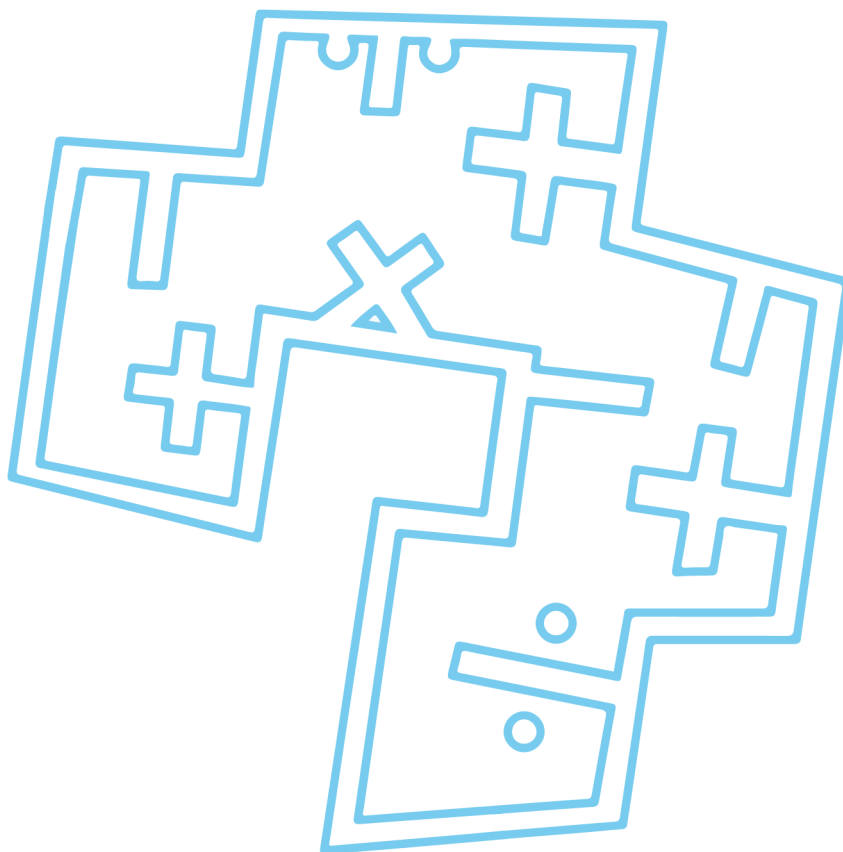


Rational Number and Polynomial

- ***Calculation with Rational Numbers***
- ***Calculation with Polynomials***



Practice For Algebra 1 Students

学而思美国ONLINE

中学数学课程体系

Think Academy 中学长期班体系专为美国G6-G9的初中生打造，提供专业、系统且全面的全年数学课程。课程依据北美学生的学习特点与需求，分为Core+体系（校内同步），Honors体系（超前升学），Challenge体系和Competition体系。

Core+体系（校内同步体系）：通过预习并巩固重点知识，精准练习，实现校内同年进度数学轻松拿A的目标。

Honors体系（超前升学体系）：超前中学正常进度1年，匹配公校最快班进度，并加深学习难度，实现进入公校最快班，高中毕业前修完5门理科AP，SAT/ACT数学满分的目标

Challenge体系：超前中学正常进度2年，在Honors班的基础上继续加快进度，实现两年学完Algebra 1, Geometry和Algebra 2的目标，进度和深度匹配顶尖私校，高中毕业前修完8门理科AP，达到SAT/ACT数学满分的目标。

Competition体系：中学AMC竞赛体系，专门针对AMC考纲设计，通过超纲匹配竞赛考点的体系，培养过上百名获奖选手的专业教练团队授课，帮助中学孩子在G8/9前晋级AIME。

	Year 1			Year 2			Year 3			Year 4			Year 5		
	Summer	Fall	Spring	Summer	Fall	Spring	Summer	Fall	Spring	Summer	Fall	Spring	Summer	Fall	Spring
Core+	Math 6/7a			Math 7b/8			Algebra 1			Geometry			Algebra 2		
Honors	Pre-Algebra			Algebra 1			Geometry			Algebra 2/ Trigonometry			Pre-Calculus		
Challenge	Pre-Algebra+			Algebra 1			Intro to Geo			Geometry			Algebra 2		
Competition															
				AMC 8 HR			AMC 10 Introduction			AMC 10 AIME qualify			AMC 12+ AIME		

学而思美国ONLINE

中学竞赛体系学员成绩

2022-2024 AMC8累计获奖学员人数:



Achievement Roll
(低年级成就奖)



Honor Roll
(全国Top 5%)



DHR
(全国Top 1%)

2022-2024 AMC10累计获奖学员人数:



AIME晋级
(全国Top 7%)



Honor Roll
(全国Top 5%)



DHR
(全国Top 1%)

2024 Think全球IMO获奖人数

7金 1银

金牌总数居全球第一



International Mathematical Olympiad
Foundation Bronze Sponsor

Think Academy是国际数学奥林匹克
竞赛官方合作伙伴

Think竞赛课程为什么能培养上千位获奖学员?

1 专业竞赛体系，一站式解决竞赛学习

Think Competition根据美国数学竞赛AMC的考纲设计，贴合学生的考试节奏，在**5-6年级学习AMC8**，**7-8年级学习AMC10**，知识点涵盖竞赛的四大模块：代数，数论，数论，和计数概率，从而每年实现一个竞赛目标，最终帮助中学生在**进入高中前完成AMC10的学习，顺利晋级AIME。**

优秀竞赛师资，为好成绩保驾护航

Think Competition课程均由**多年竞赛授课经验**的老师授课，让孩子可以更高效且轻松的掌握复杂竞赛知识点。



James老师

宾大-5年竞赛教龄



Dennis老师

杜克大学-4年竞赛教龄



Yichen老师

哥大-4年竞赛教龄

3 和优秀的同龄人一起学习，共同进步

竞赛体系每年的课程均设置入学考试，确保每位学生可以和水平相近的同龄人一起学习，让竞赛备考不再孤单，孩子们可以互相激励，共同进步。

课程亮点

家长省心，规划清晰

授课老师为孩子定制学习规划， 全程跟踪学习进度

- 报名课程：学习规划老师针对孩子的学习能力与目标，**制定个性化学习方案**。
- 上课期间：每月和家长**反馈孩子的学习情况**，提供有针对性的学习建议，并**监督落实孩子的提升方案**。
- 期中/期末：每学期组织**家长会**，梳理孩子的学习优势和薄弱环节，并制定新学期的学习规划。



每周学习闭环，保障学习效果

- 课前预习：15分钟**课前预习题**，温故而知新
- 课后作业：每节课**配套作业**题目，老师主动和家长反馈学生的作业完成情况。
- Office Hour：**免费作业讲解直播课**，解答孩子课后不明白的题目与知识点。
- 作业解析：每道作业配套**讲解视频**，随时复习错题



全年学习服务支持

- 专业客服，**全年 364 天 Parent APP 在线支持**，快速响应任何问题
- Parents App**直接和授课老师联系**，沟通更高效，随时掌握孩子的学情表现。
- 在线作业答疑，给孩子**最及时的学习帮助**

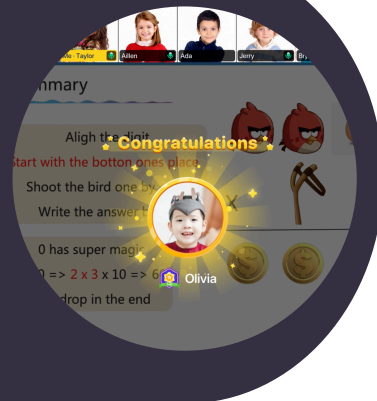


课程亮点

孩子开心，学习更高效

精心打磨课堂设计，让孩子爱上数学

- **互动游戏+情景化教学**，让数学课堂不再枯燥
- **金币激励**，孩子可以用金币兑换实体或虚拟奖品，给孩子更及时的正反馈，让孩子更主动地完成学习任务和目标。



自研上课App，强化线上课程体验



- Think Academy**自主研发的上课App**，给孩子带来更丰富的课上互动，包括举手上台，投票作答，选择填空，集体讨论等互动形式，保障**每3分钟一次互动**的频率，提升孩子的上课投入。
- 老师**实时观察每位孩子**的上课情况，保障孩子的学习体验与效果。

成就感带来底层学习动力

- 不仅课上学习高效，课后也有**完善的辅导答疑服务**。课后作业有视频解析，每周还有免费office hour解答孩子的问题，保障每节课都能学懂。
- 孩子在校内达到**成绩和进度双领先**。更愿意投入时间和精力在理科学习上，增强孩子的学习动力，自推成为**理科学霸**。



Calculation with Rational Numbers

1. $\frac{1}{2} + (-\frac{2}{3}) + \frac{4}{5} + (-\frac{1}{2}) + (-\frac{1}{3})$

2. $-\frac{1}{12} - (+\frac{1}{8})$

3. $(-\frac{12}{5}) - (-3.25)$

4. $1.8 - (-1.8 + \frac{2}{3})$

5. $-4\frac{1}{5} + 2\frac{1}{4}$

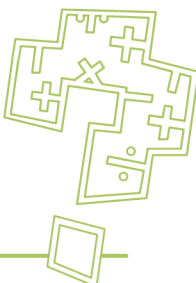
6. $4.73 - \left[2\frac{2}{3} - (2.63 - 1\frac{1}{3}) \right]$

7. $-1\frac{1}{4} + (-\frac{5}{6})$

8. $-\frac{2}{15} + (-0.8)$

9. $6\frac{1}{12} + \left(-3\frac{5}{18} \right)$

10. $1.5 + \{ (-1.8) + [0.8 + (-0.9)] \}$

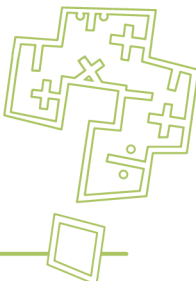


11. $-3\frac{1}{3} + [2\frac{1}{2} + (-3\frac{2}{3}) + 5\frac{1}{2} + (-7\frac{3}{4})]$

12. $(-4\frac{7}{8}) - (-5\frac{1}{2}) + (-4\frac{1}{4}) - 3\frac{1}{8}$

13. $-15\frac{2}{3} + [13\frac{2}{3} - |-4\frac{2}{15}| + (-4\frac{1}{5})]$

14. $(-0.5) - (-3\frac{1}{4}) + 6.75 - 5\frac{1}{2}$

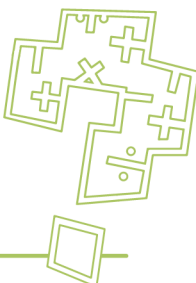


15. $178 - 87.21 + 43\frac{2}{21} + 53\frac{19}{21} - 12.79$

16. $(+0.1) + (+8\frac{1}{3}) + 11\frac{2}{3} + |-4.4|$

17. $-\frac{2}{7} - (-\frac{1}{2}) + |-1\frac{1}{2}|$

18. $(-36.32) + 35\frac{41}{50} + \left| -9\frac{8}{25} \right| + \left| -36\frac{8}{25} \right|$

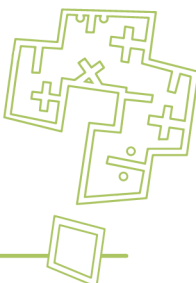


19. $-4\frac{5}{6} - (+3\frac{3}{5}) - (-3\frac{1}{6}) - (+1\frac{2}{5})$

20. $(+1\frac{3}{4}) - \frac{5}{6} - 1\frac{1}{6} + \frac{1}{2}$

21. $1\frac{2}{3} - \left(+1\frac{2}{5}\right) - \left(-\frac{4}{3}\right) - (-0.6) - 3\frac{4}{5}$

22. $-\frac{7}{5} - 1\frac{1}{5} - 2\frac{3}{5} + 3\frac{1}{5} + 2 - \frac{4}{5} + \frac{4}{5}$

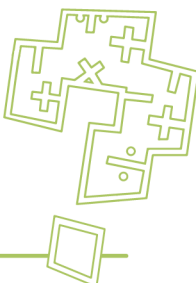


23. $-32\frac{1}{3} - \left[5\frac{1}{4} + \left(-3\frac{1}{7} \right) - 5.25 - 2\frac{6}{7} \right]$

24. $5.72 - (+15.8)$

25. $-0.47 - \left(-3\frac{47}{50} \right)$

26. $|-5-7| + |-5-(-7)| + |(-243)+(-246)|$



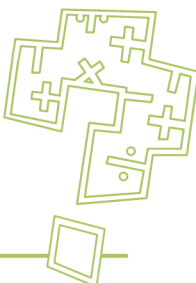
27. $(-3\frac{1}{2}) - (+5\frac{1}{4})$

28. $-(+\frac{1}{6}) - (-\frac{1}{4}) - (+\frac{1}{3}) - (-\frac{1}{2})$

29. $\left| -3\frac{8}{11} \right| - \left| -\frac{27}{10} \right| + (-\frac{9}{11}) - (-3\frac{4}{5})$

30. $(+0.125) + \left(3\frac{1}{4} \right) + \left(-3\frac{1}{8} \right) + \left(11\frac{2}{3} \right) + (-0.25)$

31. $211 \times (-455) + 365 \times 455 - 211 \times 545 + 545 \times 365$

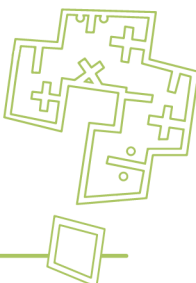


$$32. -1^{10} - \left(\frac{13}{14} - \frac{11}{12}\right) \times [9 - (-3)^2] + \frac{1}{2} \div 3$$

$$33. (-1)^8 - \left(\frac{1}{2} - \frac{2}{3}\right) \div \left(-\frac{1}{6}\right) \times [-2 - (-3)^2] - \left|\frac{1}{8} - 0.5^2\right|$$

$$34. \left[1\frac{2}{13} - \left(\frac{5}{8} - \frac{1}{6} + \frac{7}{12}\right) \times 24\right] \div (-5)$$

$$35. -117 \times \left(\frac{1}{32} - 0.125\right) \div (-1.2) \times \left(-1\frac{3}{13}\right)$$

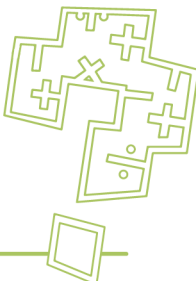


36. $42 \times \left(-\frac{2}{3}\right) + \left(-\frac{3}{4}\right) \div (-0.25)$

37. $\left[30 - \left(\frac{7}{9} + \frac{5}{6} - \frac{11}{12}\right) \times (-36)\right] \div (-5)$

38. $\left(+1\frac{2}{7}\right) \div \left(-\frac{3}{4}\right) \div \left(-\frac{15}{14}\right) \times \left(-\frac{5}{8}\right)$

39. $\left(-1\frac{3}{4}\right) \div \left(-1\frac{1}{2}\right) - \left(\frac{3}{4} + \frac{1}{2}\right) \div \left(-\frac{5}{4}\right)$



40. $3 \times (-2)^3 - 4 \times (-3)^2 + 8$

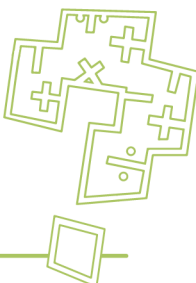
41. $(-1)^{10} \times 2^2 + (-2)^3 \div 2$

42. $-2^2 - (-2)^2 - 2^3 + |(-2)^3 - 2|$

43. $-1^4 - \frac{1}{6} \times [2 - (-3)^2]$

44. $(-10)^2 + [(-4)^2 - (3 + 3^2) \times 2]$

45. $(-1)^4 - (1 - 0.5) \times \frac{1}{3} \times [2 - (-2)^2]$

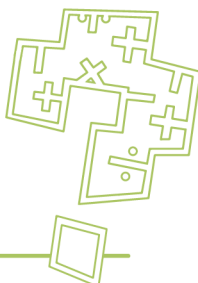


46. $(-2)^{2003} + (-2)^{2002}$

47. $(-0.25)^{2005} \times 4^{2004}$

48. $-0.5^2 + \frac{1}{4} - |-2^2 - 4| - (-1\frac{1}{2})^3 \times \frac{4}{9}$

49. $(-2)^3 - 3 \times [(-4)^2 + 2] - (-3)^2 \div (-2)$



50. $-2^3 \div (-4) \times (-7 + 5)$

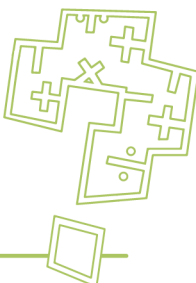
51. $(-1)^{10} \times 2^2 + (-2)^3 \div 2$

52. $8 - 2^3 \div (-4) \times (-7 + 5)$

53. $(-3)^2 \times [-\frac{2}{3} + (-\frac{5}{9})] - (-6)^2 \div 4$

54. $-1 - [-2 - (1 - 0.5 \times 4^3)]$

55. $-2\frac{1}{5} \times \frac{1}{3} - (+3\frac{4}{5}) \div 3 + (+22\frac{1}{2}) \div 3 - 2\frac{1}{2} \times \frac{1}{3}$



56. $9+5\times(-3)-(-2)^2\div 4$

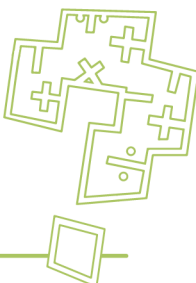
57. $(-5)^3\times[2-(-6)]-300\div 5$

58. $-1\frac{2}{3}\times(1-\frac{2}{3})\div 1\frac{1}{9}$

59. $[12-4\times(3-10)]\div 4$

60. $2\times(-3)^3-4\times(-3)+15$

61. $-1^4-\frac{1}{6}\times[2-(-3)^2]$



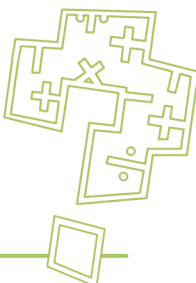
$$62. \quad 3 + 50 \div 2^2 \times \left(-\frac{1}{5}\right) - 1$$

$$63. \quad -2^4 \div \frac{16}{9} \times \left(-\frac{3}{4}\right)^2$$

$$64. \quad -0.25^2 \div \left(-\frac{1}{2}\right)^3 + \left(\frac{1}{8} - \frac{1}{2}\right) \times (-1)^{100}$$

$$65. \quad \frac{-2^2 - (-1)^{100} - 12 \div \left(-\frac{1}{2}\right)^2}{1 + |-1 - 3^2 \times 2|}$$

$$66. \quad -8 - 3 \times (-1)^3 - (-4)^4$$



67. $4 - 5 \times \left(-\frac{1}{2}\right)^3$

68. $36 \times \left(\frac{1}{2} - \frac{1}{3}\right)^2$

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

70. $\left[1\frac{1}{24} - \left(\frac{3}{8} + \frac{1}{6} - \frac{3}{4}\right) \times \frac{3}{4}\right] \div 5$

71. $\left(\frac{5}{12} + \frac{2}{3} - \frac{3}{4}\right) \times (-12)$

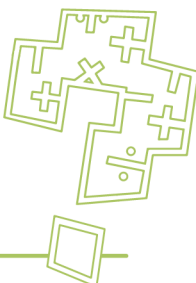
72. $16 \div (-2)^3 - \left(-\frac{1}{8}\right) \times (-4)$

73. $\left(-\frac{1}{2} - \frac{1}{3}\right) \div \left(-\frac{1}{6}\right) + (-2)^2 \times (-14)$

74. $-3 - [-5 + (1 - 0.2 \times \frac{3}{5}) \div (-2)]$

75. $(-5)^2 \times \left(-\frac{3}{5}\right) \div \left(-\frac{9}{25}\right)$

76. $-1\frac{2}{3} \times \left(1 - \frac{2}{3}\right) \div 1\frac{1}{9}$



77. $[12 - 4 \times (3 - 10)] \div (4 - 9)$

78. $-5 + (-2)^4 - 2^4 \div (-2)^3$

79. $24 + 16 \div (-2)^3 \div (-10)$

80. $(5 + 3 \div \frac{1}{3}) \div (-2) + (-3)^2$

81. $4 - (-2)^3 - 33 \div (-1)^3$

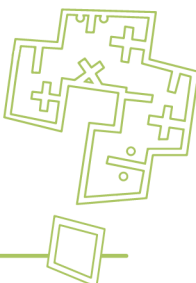
82. $-\frac{3}{4} \times [-33 \times (-\frac{2}{3})^2 - 23]$

83. $-9 \div 3 + (\frac{1}{2} - \frac{2}{3}) \times 12 + 32$

84. $(-\frac{5}{23}) \times (-34) - \frac{5}{23} \times 17 - \frac{5}{23} \times (-6)$

85. $1\frac{1}{2} \times \frac{5}{7} - (-\frac{5}{7}) \times 2\frac{1}{2} + (-\frac{1}{2}) \times \frac{5}{7}$

86. $(-2)^2 \times (-1)^3 - 3 \times [-1 - (-2)]$



87. $2^3 - 3^2 - (-4) \times (-9) \times 0$

88. $4 - 5 \times \left(-\frac{1}{2}\right)^3$

89. $-8 - 3 \times (-1)^3 - (-1)^4$

90. $-2^3 \div \frac{4}{9} \times \left(-\frac{2}{3}\right)^2$

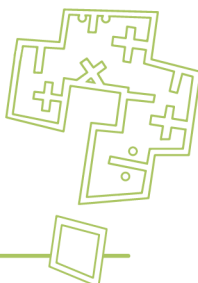
91. $-1 - \frac{1}{6} \times [12 - (-3)^2]$

92. $(-7) \times (-5) - 90 \div (-15)$

93. $42 \times \left(-\frac{2}{3}\right) + \left(-\frac{3}{4}\right) \div (-0.25)$

94. $\left(\frac{11}{12} - \frac{7}{6} + \frac{3}{4} - \frac{13}{24}\right) \times (-48)$

95. $(-370) \times \left(-\frac{1}{4}\right) + 0.25 \times 24.5 - \left(-5\frac{1}{2}\right) \times 25\%$



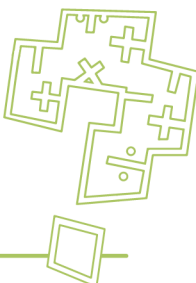
96. $3\frac{3}{4} \times \left(-1\frac{3}{5}\right)$

97. $(-2) \times (-5) \times \left(+\frac{5}{6}\right) \times (-30)$

98. $\left(-\frac{5}{12}\right) \times \frac{4}{15} \times (-1.5) \times 1\frac{1}{3}$

99. $\left(-8 + 1\frac{1}{3} - 0.04\right) \times \left(-\frac{3}{4}\right)$

100. $(-8) \times \left(-8\frac{3}{7}\right) + (-7) \times \left(-8\frac{3}{7}\right) - 15 \times 8\frac{3}{7}$



101. $9 \times \left(-99\frac{17}{18}\right)$

102. $\left(-\frac{1}{4}\right) \times (-7.98)$

103. $(-4) \times 5 \times (-0.25) \times (-8)$

104. $\left(-\frac{1}{4}\right) \times 0.5 \times \left(-70\frac{3}{5}\right) \times 4$

105. $-3.2 \times \left[-3 \times \left(-\frac{7}{9}\right) \times \left(-\frac{2}{21}\right) - 2 \times \left(-\frac{1}{3}\right)\right]$

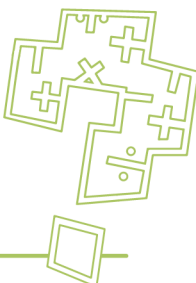
106. $49\frac{7}{8} \times (-4)$

107. $\frac{1}{5} \times \left(-75\frac{5}{6}\right)$

108. $\left(-9\frac{24}{25}\right) \times (-125)$

109. $(-125) \div \left(-\frac{3}{7}\right) + 62 \div \frac{3}{7} + 187 \div \left(-\frac{3}{7}\right)$

110. $\left(-\frac{2}{3} + \frac{3}{4} + \frac{1}{12}\right) \times (-24)$



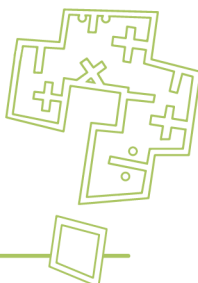
$$111. \left(-\frac{2}{3}\right) \times \left(-6\frac{2}{3}\right) \times \left(-\frac{1}{2}\right) \times \left(-1\frac{1}{5}\right)$$

$$112. \left(-1\frac{1}{7}\right) \times \left(-\frac{7}{8} + 1\frac{3}{4} - \frac{7}{12}\right)$$

$$113. \left(\frac{1}{3} - \frac{1}{2} \times \frac{7}{12}\right) \times 3\frac{3}{7}$$

$$114. \left(-\frac{1}{2}\right) \times \frac{5}{14} - \left(-\frac{5}{14}\right) \times 2\frac{1}{2} + 1\frac{1}{2} \times \frac{5}{14}$$

$$115. \frac{4}{27} \times \frac{5}{9} + 4 \times \frac{5}{27} + \frac{5}{9} \times \left(-\frac{5}{3}\right)$$



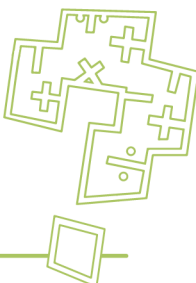
116. $\left(+\frac{7}{16}\right) \div (-1.75)$

117. $\left(-\frac{3}{5}\right) \div \left(-3\frac{1}{2}\right) \div \left(-1\frac{2}{7}\right)$

118. $(-81) \div 2\frac{1}{4} \times \frac{4}{9} \div (-15)$

119. $(-10) \div (-8) \times (-4)$

120. $(-1) \div \frac{1}{7} \times (-7)$

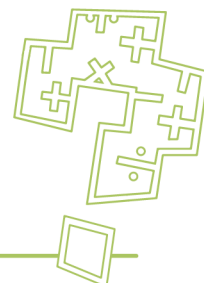


$$121. \quad -4.5 \times \frac{2}{5} \div \frac{9}{8}$$

$$122. \quad \left(-3\frac{1}{2}\right) \div \left(-1\frac{2}{3}\right) \div \left(-1\frac{1}{4}\right)$$

$$123. \quad \left(+5\frac{1}{2}\right) \div \left(-4\frac{4}{25}\right) \times \left(-\frac{13}{15}\right) \div \left(-3\frac{1}{18}\right)$$

$$124. \quad 4 \times (-15) \times \left(-\frac{1}{6} - \frac{3}{20} + \frac{4}{5} - \frac{7}{12}\right)$$

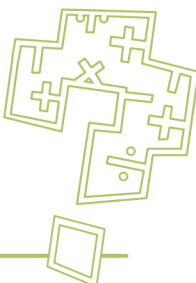


$$125. \frac{1}{3} \times \frac{1}{5} \times \frac{1}{7} + \left(-\frac{1}{3}\right) \times \left(-\frac{1}{5}\right) \times \left(-\frac{1}{7}\right) + \left(-\frac{1}{3}\right) \times \left(-\frac{1}{5}\right) \times \frac{1}{7} + \frac{1}{3} \times \left(-\frac{1}{5}\right) \times \frac{1}{7}$$

$$126. -(-8)^2 \times (-1)^5$$

$$127. \frac{5}{7} \div \left(-2\frac{2}{5}\right) - \frac{5}{7} \times \frac{5}{12} - \frac{5}{3} \div 4$$

$$128. (-6) \times (-3)^4$$



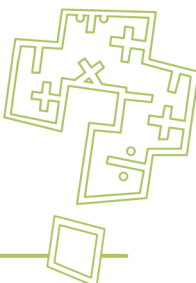
$$129. \quad 0.8 \times \frac{2}{11} + 4.8 \times \left(-\frac{2}{7}\right) - 2.2 \div \frac{3}{7} + 0.8 \times \frac{9}{11}$$

$$130. \quad -13.5 \times (-0.7) \div \left(-5\frac{3}{5}\right)$$

$$131. \quad \left(\frac{1}{6} - \frac{1}{7} + \frac{2}{3}\right) \div \left(-\frac{1}{42}\right)$$

$$132. \quad \frac{1}{4} \div (-0.1) - \left(-\frac{2}{3}\right) \div \left(-\frac{3}{4}\right)$$

$$133. \quad -216 \div 2^2 \times \left(-\frac{1}{2}\right)^2$$



$$134. \left(-1\frac{3}{7}\right) \times 1\frac{4}{7} \div \left(-1 - \frac{4}{7}\right) + 1\frac{4}{7}$$

$$135. \left(-11\frac{2}{3}\right) \div 0.5 - \left(-21\frac{1}{2}\right) \div 0.5 - \left(+10\frac{1}{3}\right) \div 0.5$$

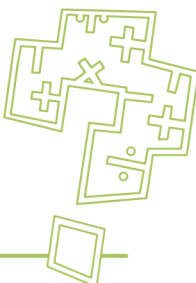
$$136. \left(-\frac{1}{6} - \frac{3}{20} + \frac{4}{5} - \frac{7}{12}\right) \times (-15 \times 4)$$

$$137. \left(-\frac{7}{18}\right) \times \frac{3}{7} \times (-2.4)$$

$$138. -48 \times \left(1 - \frac{1}{12} + \frac{3}{4}\right)$$

$$139. 0.5 \times 2^2 - (-3)^2$$

$$140. \frac{1}{12} \div \left(-\frac{1}{3} + \frac{3}{4}\right)$$



$$141. \quad (-2)^3 \times (-\frac{3}{8}) - (-2)^2 \div 2\frac{2}{3} \times (-\frac{2}{3})^2$$

$$142. \quad -1^4 - \left[\frac{2}{17} - (-\frac{7}{27} + \frac{2}{17}) \right] - (\frac{2}{3})^3$$

$$143. \quad (1\frac{3}{4} - \frac{7}{8} - \frac{7}{12}) \div (-\frac{7}{8})$$

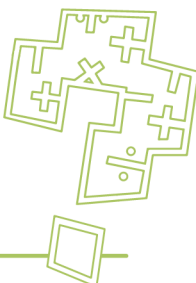
$$144. \quad (-7)^2 \div \frac{4}{13} - (-30) \times 3\frac{1}{4} + 3.25$$

$$145. \quad -86 + 86 \times 35.2 - 8.6 \times 42$$

$$146. \quad 25 \times \frac{3}{4} - (-25) \times \frac{1}{2} - 25 \times \frac{1}{4}$$

$$147. \quad -99\frac{1}{9} \times 27$$

$$148. \quad (-\frac{2}{3})^7 \times (1.5)^6$$



149. $(-\frac{1}{3})^{2010} \times 3^{2011}$

150. $(-7)^{2011} + 14 \times 7^{2010} - (-49) \times (-7)^{2009}$

151. $2 \div (-\frac{3}{7}) \times \frac{4}{7} \div (-5\frac{1}{7})$

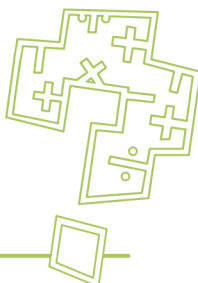
152. $(-3\frac{4}{7}) \div (-1\frac{2}{3}) \times (-\frac{1}{15})$

153. $(-81 - 27 + 63 - 18) \div (-9)$

154. $\left| -2\frac{1}{2} \right| \times \left| -\frac{3}{5} \right| - \left| +\frac{1}{2} \right| \div \left| -\frac{2}{3} \right| - (-3)$

155. $-8 \times [-7 + (1 - \frac{2}{3} \times 0.6) \div (-3)]$

156. $[15\frac{1}{2} - (1\frac{1}{4} \times \frac{3}{5} + 3\frac{1}{2})] \div (-1\frac{1}{8})$



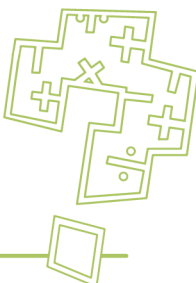
$$157. \quad \frac{1}{5} \times (-5) \div \left(-\frac{1}{5}\right) \times 5$$

$$158. \quad -\left(\frac{1}{3} - \frac{1}{21} + \frac{3}{14} - \frac{2}{7}\right) \div \left(-\frac{1}{42}\right)$$

$$159. \quad -13 \times \frac{2}{3} - 0.34 \times \frac{2}{7} + \frac{1}{3} \times (-13) - \frac{5}{7} \times 0.34$$

$$160. \quad (-13) \times (-134) \times \frac{1}{13} \times \left(-\frac{1}{67}\right)$$

$$161. \quad (-16 - 50 + 3) \div (-2)$$



$$162. \quad 0.7 \times 1\frac{4}{9} + 2\frac{3}{4} \times (-15) + 0.7 \times \frac{5}{9} + \frac{1}{4} \times (-15)$$

$$163. \quad \left(1\frac{4}{5} - 2\frac{5}{6} - \frac{8}{15}\right) \times 60$$

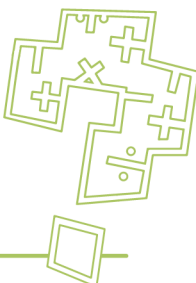
$$164. \quad (-42) \div 3\frac{1}{2} - \frac{5}{9} \div \left(-\frac{15}{18}\right)$$

$$165. \quad -81 \div 2\frac{1}{4} \div (-16) \times \frac{4}{9}$$

$$166. \quad (-6) \times (-4) + (-32) \div (-8) - 3$$

$$167. \quad (-9) \times (-4) + (-60) \div 12$$

$$168. \quad 19\frac{5}{13} + (-20\frac{3}{17}) + (-302.5) + (-151\frac{14}{17}) + \left(-119\frac{5}{13}\right) + \left(-197\frac{1}{2}\right)$$



$$169. \quad \left(-3\frac{5}{37}\right) + \left[-\left(+2\frac{11}{148}\right) + (+5.175) + \left(-3\frac{3}{37}\right) + 6.325\right]$$

$$170. \quad \left[\left(-\frac{9}{14}\right) - 1\frac{5}{7} + \frac{8}{21}\right] \div \left(-\frac{1}{42}\right)$$

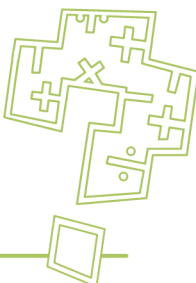
$$171. \quad -|-3| \div 10 - (-15) \times \frac{1}{3}$$

$$172. \quad -1\frac{3}{5} \times \left(\frac{7}{32} - \frac{5}{16}\right) \div 2\frac{1}{2}$$

$$173. \quad \left(2\frac{1}{3} - 3\frac{1}{2} + 1\frac{17}{18}\right) \div \left(-1\frac{1}{6}\right) \times (-7)$$

$$174. \quad -\frac{3}{4} \times \left(8 - 2\frac{1}{3} - 0.04\right)$$

$$175. \quad \left(+3\frac{2}{5}\right) + \left(-2\frac{7}{8}\right) - \left(+3\frac{5}{12}\right) - \left(-5\frac{3}{5}\right) + \left(-1\frac{1}{8}\right) - 5\frac{5}{12}$$



176. $1\frac{2}{3} \times (-1\frac{1}{5})$

177. $(-6.5) \times (-\frac{5}{6})$

178. $(-\frac{3}{4}) \times (-1\frac{1}{2}) \times (-\frac{4}{9})$

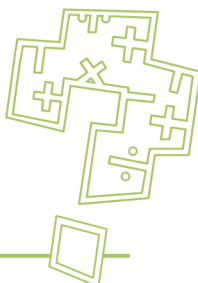
179. $-\frac{5}{6} \times 0.25 \times (-4) \times 9$

180. $(-\frac{5}{6}) \div (-3\frac{1}{3})$

181. $(-3\frac{4}{7}) \div (-1\frac{2}{3}) \div (-1\frac{1}{14})$

182. $(-\frac{1}{2}) \times (-\frac{2}{3}) \times (-1\frac{1}{4}) \times (-1\frac{1}{3}) \times (-1\frac{4}{5})$

183. $-3.8 \times 2.4 \times 799.6 \times (-\frac{11}{7}) \times (3^3 - 3 \times 9) \times 88\frac{2}{3}$



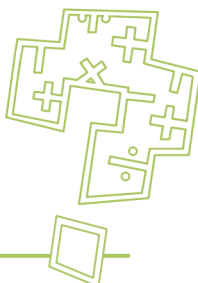
$$184. \quad -8 - [-3.6 - (-0.2) \times (-0.4) \times (-1)]$$

$$185. \quad 3 \times \left[5^2 - 6 + (-8)^2 - 2 \times (-2)^3 \times \frac{1}{4} \right]$$

$$186. \quad -1^5 - [(-0.4) \times (-2.5)]^5$$

$$187. \quad (-1)^{25} - (1 - 0.5) \times \frac{1}{3}$$

$$188. \quad 3 - (-2) \times (-1) - 8 \div \left(-\frac{1}{2}\right)^2 \times |-3 + 1|$$



$$189. (-27\frac{9}{11}) \div 9 - (\frac{1}{2} + \frac{2}{3} - \frac{3}{4} - \frac{11}{12}) \times (-24)$$

$$190. -3^2 \times 2 + (-2)^3 \times 3 - 48 \div (-2) + (-2)^6$$

$$191. \left(\left| -3\frac{1}{3} \right| - \left| 2\frac{1}{2} \right| \right) \div \left[-4^2 \times (-0.5)^3 \right] \times (-1\frac{1}{5})^2$$

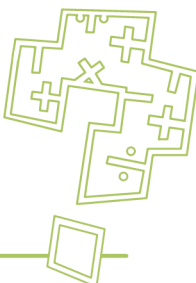
$$192. (-\frac{5}{6}) \div (-3) \times (-1\frac{4}{5}) \times (-2)$$

$$193. \frac{8}{81} \times 6\frac{3}{4} - \frac{2}{7} \div (-1\frac{5}{7}) + (-0.5)^2$$

$$194. \left| 1\frac{1}{3} - 1\frac{1}{2} \right| - \left| 2 \times (-2)^3 \right| + \left| -3 \right|^3$$

$$195. (-\frac{5}{8}) \times (-4)^2 - 0.25 \times (-5) \times (-4)^3$$

$$196. -(-3)^2 \times 2$$

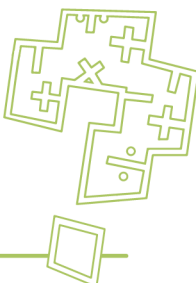


197. $\frac{6}{5} \times \left(-\frac{1}{3} - \frac{1}{2}\right) \div \frac{5}{4}$

198. $(-1.5) + 4\frac{1}{4} + 2.75 + \left(-5\frac{1}{2}\right)$

199. $-8 \times (-5) - 63$

200. $4 - 5 \times \left(-\frac{1}{2}\right)^3$



Calculation with Polynomials

1. $2a - 5b - 3a + b$

2. $\frac{1}{4}mn - 4mn$

3. $m^2 + 3mn + 6 - 8m^2 + mn$

4. $-3a^2 + 2ab - 4ab + 2a^2$

5. $(8x - 7x) - (4x - 5y)$

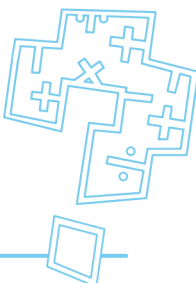
6. $2x^2 - xy - \left(\frac{1}{2}x^2 - xy + 3\right)$

7. $5a^2 + 3b^2 + 2(a^2 - b^2) - (5a^2 - 3b^2)$

8. $m^2 + 8mn - 12 - 4m^2 - 6mn + 9$

9. $5(3a^2b - ab^2) - 3(ab^2 + 5a^2b)$

10. $-2(a^3 - 3b) + (a^3 - b^2)$



11. $4(2y - 3x) - 3(4y - 3x) + \frac{1}{2}x$

12. $-5x + (3x - 1) - 2(3 - x)$

13. $3x^2 - [1 + 2x - (5 + 3x - x^2)]$

14. $2a^2 - [3a - (5a - 2) + 2a^2]$

15. $\frac{2}{3}a^2 - \left(\frac{1}{2}ab - \frac{3}{4}a^2\right) + (ab - b^2)$

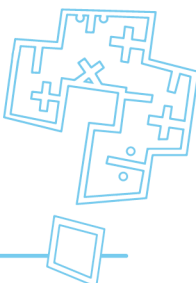
16. $x^2 - \frac{1}{2}y^2 - \left(xy - \frac{3}{2}x^2 + \frac{1}{2}y^2\right)$

17. $2(a^2 - ab) - 2a^2 + 3ab$

18. $12a - 3(4a + 5b) + 2(3a - 4b)$

19. $(2xy - y) - (-y + yx)$

20. $2(2m^2 - 5m) - (3m + 5 - 2m^2)$



21. $2(2a^2 + 9b) + 3(-5a^2 - 4b)$

22. $(3mn - 5m^2) - (3m^2 - 5mn)$

23. $-2(2x^2 - xy) + 4(x^2 + xy - 1)$

24. $3x^2 - [7x - (4x - 3) + 2x^2]$

24. $(2y^2 - ay + 1) - 2(y^2 - 2ay + 3)$

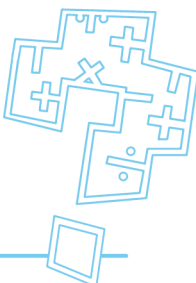
26. $2(2a^2 + 9b) + 3(-5a - 4b)$

27. $(5a^2 + 2a - 1) - 4(3 - 8a + 2a^2)$

28. $3x^2 - [7x - (4x - 3) - 2x^2]$

29. $7a^2b + (-4a^2b + 5ab^2) - (2a^2b - 3ab^2)$

30. $5(a^2b - 3ab^2) - 2(a^2b - 7ab^2)$



31. $2(2a^2 + 9b) + 3(-5a^2 - 4b)$

32. $3ab + 2(a^2 - 2ab) - 3(2ab - a^2)$

33. $(x^3 - 2y^3 - 3x^2y) - (3x^3 - 3y^3 - 7x^2y)$

34. $\left(2x^2 - \frac{1}{2} + 3x\right) - 4\left(x - x^2 + \frac{1}{4}\right)$

35. $4(x^2 + xy - 6) - 3(2x^2 - xy)$

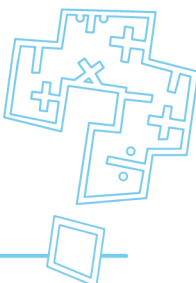
36. $2x^2y + 3xy^2 - (6x^2y - 3xy^2)$

37. $3x^2 - \left[5x - \left(\frac{1}{2}x - 3\right) + 2x^2\right]$

38. $3(2a - 3b + c) - 2(-2a + 2b - 3c)$

39. $7a^2b + (-4a^2b + 5ab^2) - (2a^2b - 3ab^2)$

40. $2xy - \frac{1}{2}x^3 + 2xy + 0.5x^3 + \frac{1}{2}$



41. $(5a^2 + 2a - 1) - 4(3 - 8a + 2a^2)$

42. $\left(2x^2 - \frac{1}{2} + 3x\right) - 4\left(x - x^2 + \frac{1}{2}\right)$

43. $ab + [3a^2b - (4a^2b + ab)] - 4a^2b + 3a^2b$

44. $2(x^3 - 2y^2) - (x - 2y) - (x - 3y^2 + 2x^3)$

45. $(-x^2 + 2xy - y^2) - 2(xy - 3x^2) + 3(2y^2 - xy)$

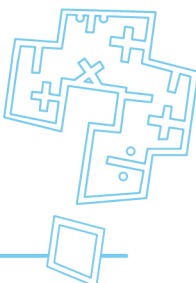
46. $6ab - 2(-3b + 2a) + 3(-2ab - 5a)$

47. $4x^2y - [6xy - 3(4xy - 2) - x^2y] + 1$

48. $3\left[\frac{4}{3}a - \left(\frac{2}{3}a - \frac{1}{3}\right)\right] - \frac{3}{2}a$

49. $\frac{1-2x}{3} - \frac{3-x}{4}$

50. $3a + 4\left(a - \frac{1}{2}b\right) - 2(3a + b)$



$$51. -\frac{5}{3}ab^3 + 2a^3b - \frac{9}{2}a^2b - ab^3 - \frac{1}{2}a^2b - a^3b$$

$$52. 7xy + xy^3 + 4 + 6x - \frac{2}{5}xy^3 - 5xy - 3$$

$$53. \frac{1}{2}m - 2\left(m - \frac{1}{3}n^2\right) - \left(\frac{3}{2}m - \frac{1}{3}n^2\right)$$

$$54. 3x^2y - \left[2xy - 2\left(xy - \frac{3}{2}x^2y\right) + xy\right]$$

$$55. (5a^2 + 2a - 1) - 4(3 - 8a + 2a^2)$$

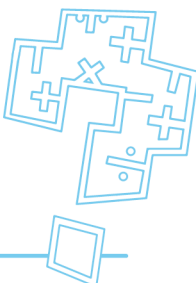
$$56. \frac{1}{3}(-3ax^2 - ax + 3) - \left(-ax^2 - \frac{1}{2}ax - 1\right)$$

$$57. \left(xy - \frac{2}{3}y - \frac{2}{3}\right) - \left(-\frac{1}{2}x - \frac{1}{2}xy + 1\right)$$

$$58. 4(2x^2 - 3x + 1) - 2(4x^2 - 2x + 3)$$

$$59. 3a^2 - (5a^2 - ab + b^2) - (7ab - 7b^2 - 3a^2)$$

$$60. 3x^2 - [7x - 3(4x - 3) - 2x^2]$$



$$61. \left(\frac{1}{3}a^3 - 2a - 6 \right) - \frac{1}{2} \left(\frac{1}{2}a^3 - 4a - 7 \right)$$

$$62. 5ab - 2 \left[3ab - \left(4ab^2 + \frac{1}{2}ab \right) \right] - 5ab^2$$

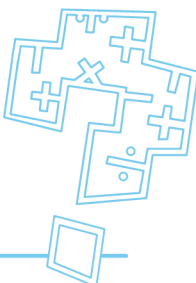
$$63. -5a^2b + 3(3b^2 - a^3b) - 2(-2a^2b + 3b^2 - 3b)$$

$$64. 4x^2y - [6xy - 2(4xy - 2) - x^2y] + 1$$

$$65. (4x^2 - 5xy) - \left(\frac{1}{3}y^2 + 2x^2 \right) + 2 \left(3xy - \frac{1}{4}y^2 - \frac{1}{12}y^2 \right)$$

$$66. (4m^2 - n^2) - [2(mn - n^2 + m^2) - (-2m^2 + 3n^2 + mn)]$$

$$67. \frac{1}{3}(2x - 3y) + \frac{1}{2}(2x - 3y) - \frac{1}{6}(2x - 3y) - \frac{5}{3}(2x - 3y)$$



Calculation with Rational Numbers:

1. $-\frac{1}{5}$

2. $-\frac{5}{24}$

3. $\frac{17}{20}$

4. $\frac{44}{15}$

5. $-\frac{39}{20}$

6. 3.36

7. $-\frac{25}{12}$

8. $-\frac{14}{15}$

9. $\frac{101}{36}$

10. -0.4

11. $-\frac{27}{4}$

12. $-\frac{27}{4}$

13. $-\frac{31}{3}$

14. 4

15. 175

16. 24.5

17. $\frac{12}{7}$

18. $45\frac{7}{50}$

19. $-\frac{20}{3}$

20. $\frac{1}{4}$

21. $-\frac{8}{5}$

22. 0

23. $-\frac{79}{3}$

24. -10.08

25. $\frac{347}{100}$

26. 503

27. $-\frac{35}{4}$

28. $\frac{1}{4}$

29. $\frac{441}{110}$

30. $\frac{35}{3}$

31. 154000

32. $-\frac{5}{6}$

33. $\frac{95}{8}$

34. $\frac{62}{13}$

35. $\frac{45}{4}$

36. -25

37. -11

38. -1

39. $\frac{13}{6}$

40. -52

41. 0

42. -6

43. $\frac{1}{6}$

44. 92

45. $\frac{4}{3}$

46. -2^{2002}

47. $-\frac{1}{4}$

48. $-6\frac{1}{2}$

49. $-57\frac{1}{2}$

50. -4

51. 0

52. 4

53. -20

54. -30

55. $4\frac{2}{3}$

56. -7

57. -1060

58. $-\frac{1}{2}$

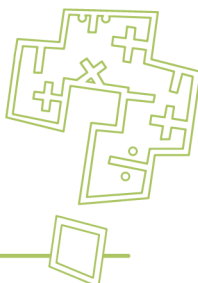
59. 10

60. -27

61. $\frac{1}{6}$

62. $-\frac{1}{2}$

63. $-\frac{81}{16}$



64. $\frac{1}{8}$

65. $-\frac{53}{20}$

66. -261

67. $4\frac{5}{8}$

68. 1

69. -81

70. $\frac{23}{96}$

71. -4

72. $-2\frac{1}{2}$

73. -51

74. $2\frac{11}{25}$

75. $\frac{125}{3}$

76. $-\frac{1}{2}$

77. -8

78. 13

79. $24\frac{1}{5}$

80. 2

81. 45

82. $\frac{113}{4}$

83. 27

84. 5

85. $\frac{5}{2}$

86. -7

87. -1

88. $4\frac{5}{8}$

89. -6

90. -8

91. $-1\frac{1}{2}$

92. 41

93. -25

94. 2

95. 100

96. -6

97. -250

98. $\frac{2}{9}$

99. 5.03

100. 0

101. -899.5

102. 1.995

103. -40

104. 35.3

105. $-\frac{64}{45}$

106. -199.5

107. $-15\frac{1}{6}$

108. 1245

109. 0

110. -4

111. $\frac{8}{3}$

112. $-\frac{1}{3}$

113. $\frac{1}{7}$

114. $\frac{5}{4}$

115. $-\frac{25}{243}$

116. $-\frac{1}{4}$

117. $-\frac{2}{15}$

118. $\frac{16}{15}$

119. -5

120. 49

121. $-\frac{8}{5}$

122. $-\frac{42}{25}$

123. $-\frac{3}{8}$

124. 6

125. 0

126. 64

127. $-\frac{85}{84}$

128. -486

129. $-\frac{599}{105}$

130. $-\frac{27}{16}$

131. -29

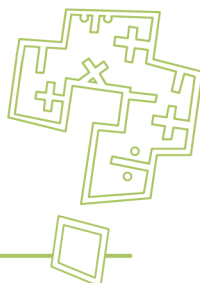
132. $-\frac{61}{18}$

133. $-\frac{27}{2}$

134. 3

135. -1

136. 6



137. $\frac{2}{5}$

138. -80

139. -7

140. $\frac{1}{5}$

141. $2\frac{1}{3}$

142. $-1\frac{5}{9}$

143. $-\frac{1}{3}$

144. 260

145. 2580

146. 25

147. -2676

148. $-\frac{2}{3}$

149. 3

150. 0

151. $\frac{14}{27}$

152. $-\frac{1}{7}$

153. 7

154. $3\frac{3}{4}$

155. $57\frac{3}{5}$

156. -10

157. 25

158. 9

159. -13.34

160. -2

161. $\frac{63}{2}$

162. -43.6

163. -94

164. $-11\frac{1}{3}$

165. 1

166. 25

167. 31

168. -772

169. $\frac{475}{148}$

170. 83

171. $\frac{47}{10}$

172. $\frac{3}{50}$

173. $\frac{14}{3}$

174. $-\frac{211}{50}$

175. $-3\frac{5}{6}$

176. -2

177. $\frac{65}{12}$

178. $-\frac{1}{2}$

179. $\frac{15}{2}$

180. $\frac{1}{4}$

181. -2

182. -1

183. 0

184. -4.48

185. 261

186. -2

187. $-\frac{7}{6}$

188. -63

189. $-\frac{166}{11}$

190. 46

191. $\frac{3}{5}$

192. 1

193. $\frac{13}{12}$

194. $11\frac{1}{6}$

195. -90

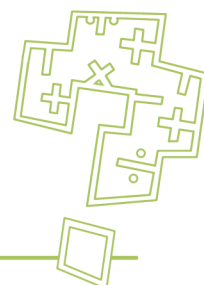
196. -18

197. $-\frac{4}{5}$

198. 0

199. -23

200. $4\frac{5}{8}$



Calculation with Polynomials:

1 $-a - 4b$

2 $-\frac{15}{4}mn$

3 $-7m^2 + 4mn + 6$

4 $-a^2 - 2ab$

5 $-3x + 5y$

6 $\frac{3}{2}x^2 - 3$

7 $2a^2 + 4b^2$

8 $-3m^2 + 2mn - 3$

9 $-8ab^2$

10 $-a^3 - b^2 + 6b$

11 $-4y - \frac{5}{2}x$

12 -7

13 $2x^2 + x + 4$

14 $2a - 2$

15 $\frac{17}{12}a^2 + \frac{1}{2}ab - b^2$

16 $\frac{5}{2}x^2 - y^2 - xy$

17 ab

18 $6a - 23b$

19 xy

20 $6m^2 - 13m - 5$

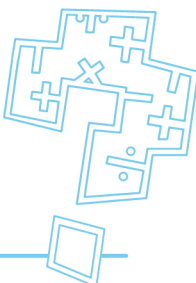
21 $-11a^2 + 6b$

22 $-8m^2 + 8mn$

23 $6xy - 4$

24 $x^2 - 3x - 3$

25 $3ay - 5$



26 $4a^2 - 15a + 6b$

39 $a^2b + 8ab^2$

27 $-3a^2 + 34a - 13$

40 $4xy + \frac{1}{2}$

28 $5x^2 - 3x - 3$

41 $-3a^2 + 34a - 13$

29 $a^2b + 8ab^2$

42 $6x^2 - x - \frac{5}{2}$

30 $3a^2b - ab^2$

43 $-2a^2b$

31 $-11a^2 + 6b$

44 $-y^2 - 2x + 2y$

32 $5a^2 - 7ab$

45 $5x^2 + 5y^2 - 3xy$

33 $-2x^3 + y^3 + 4x^2y$

46 $6b - 19a$

34 $6x^2 - x - \frac{3}{2}$

47 $5x^2y + 6xy - 5$

35 $-2x^2 + 7xy - 24$

48 $\frac{1}{2}a + 1$

36 $-4x^2y + 6xy^2$

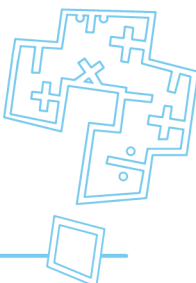
49 $-\frac{5}{12}x - \frac{5}{12}$

37 $x^2 - \frac{9}{2}x - 3$

50 $a - 4b$

38 $10a - 13b + 9c$

51 $-\frac{8}{3}ab^3 + a^3b - 5a^2b$



52 $\frac{3}{5}xy^3 + 2xy + 6x + 1$

65 $2x^2 - y^2 + xy$

53 $n^2 - 3m$

66 $4n^2 - mn$

54 $-xy$

67 $-2x + 3y$

55 $-3a^2 + 34a - 13$

56 $\frac{1}{6}ax + 2$

57 $\frac{3}{2}xy + \frac{1}{2}x - \frac{2}{3}y - \frac{5}{3}$

58 $-8x - 2$

59 $a^2 + 6b^2 - 6ab$

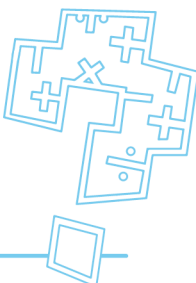
60 $5x^2 + 5x - 9$

61 $\frac{1}{12}a^3 - \frac{5}{2}$

62 $3ab^2$

63 $-3a^3b - a^2b + 3b^2 + 6b$

64 $5x^2y + 2xy - 3$





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