Fluid Mechanics Question Bank

Multiple Choice Questions (150)

1. What is the primary purpose of Bernoulli's principle?

A) Measuring temperature

B) Explaining fluid flow and pressure differences

C) Calculating electrical resistance

D) Determining gravitational force

Answer: B

2. The continuity equation is based on the conservation of:

A) Energy

B) Mass

C) Momentum

D) Pressure

Answer: B

3. In Euler's equation, which term is absent?

A) Pressure gradient

B) Viscosity

C) Velocity

D) Gravity

Answer: B

4. A Venturi meter is used to measure:

A) Fluid velocity

B) Fluid density

C) Fluid temperature

D) Fluid viscosity

Answer: A

5. Newton's law of viscosity relates:

A) Shear stress to strain

B) Shear stress to rate of strain

C) Pressure to volume

D) Temperature to density

Answer: B

6. What is the primary purpose of Bernoulli's principle?

A) Measuring temperature

B) Explaining fluid flow and pressure differences

C) Calculating electrical resistance

D) Determining gravitational force

Answer: B

7. The continuity equation is based on the conservation of:

A) Energy

B) Mass

C) Momentum

D) Pressure

Answer: B

8. In Euler's equation, which term is absent?

A) Pressure gradient

B) Viscosity

C) Velocity

D) Gravity

Answer: B

9. A Venturi meter is used to measure:

A) Fluid velocity

B) Fluid density

C) Fluid temperature

D) Fluid viscosity

Answer: A

10. Newton's law of viscosity relates:

A) Shear stress to strain

B) Shear stress to rate of strain

C) Pressure to volume

D) Temperature to density

Answer: B

11. What is the primary purpose of Bernoulli's principle?

A) Measuring temperature

B) Explaining fluid flow and pressure differences

C) Calculating electrical resistance

D) Determining gravitational force

Answer: B

12. The continuity equation is based on the conservation of:

A) Energy

B) Mass

C) Momentum

D) Pressure

Answer: B

13. In Euler's equation, which term is absent?

A) Pressure gradient

B) Viscosity

C) Velocity

D) Gravity

Answer: B

14. A Venturi meter is used to measure:

A) Fluid velocity

B) Fluid density

C) Fluid temperature

D) Fluid viscosity

Answer: A

15. Newton's law of viscosity relates:

A) Shear stress to strain

B) Shear stress to rate of strain

C) Pressure to volume

D) Temperature to density

Answer: B

16. What is the primary purpose of Bernoulli's principle?

A) Measuring temperature

B) Explaining fluid flow and pressure differences

C) Calculating electrical resistance

D) Determining gravitational force

Answer: B

17. The continuity equation is based on the conservation of:

A) Energy

B) Mass

C) Momentum

D) Pressure

Answer: B

18. In Euler's equation, which term is absent?

A) Pressure gradient

B) Viscosity

C) Velocity

D) Gravity

Answer: B

19. A Venturi meter is used to measure:

A) Fluid velocity

B) Fluid density

C) Fluid temperature

D) Fluid viscosity

Answer: A

20. Newton's law of viscosity relates:

A) Shear stress to strain

B) Shear stress to rate of strain

C) Pressure to volume

D) Temperature to density

Answer: B

21. What is the primary purpose of Bernoulli's principle?

A) Measuring temperature

B) Explaining fluid flow and pressure differences

C) Calculating electrical resistance

D) Determining gravitational force

Answer: B

22. The continuity equation is based on the conservation of:

A) Energy

B) Mass

C) Momentum

D) Pressure

Answer: B

23. In Euler's equation, which term is absent?

A) Pressure gradient

B) Viscosity

C) Velocity

D) Gravity

Answer: B

24. A Venturi meter is used to measure:

A) Fluid velocity

B) Fluid density

C) Fluid temperature

D) Fluid viscosity

Answer: A

25. Newton's law of viscosity relates:

A) Shear stress to strain

B) Shear stress to rate of strain

C) Pressure to volume

D) Temperature to density

Answer: B

26. What is the primary purpose of Bernoulli's principle?

A) Measuring temperature

B) Explaining fluid flow and pressure differences

C) Calculating electrical resistance

D) Determining gravitational force

Answer: B

27. The continuity equation is based on the conservation of:

A) Energy

B) Mass

C) Momentum

D) Pressure

Answer: B

28. In Euler's equation, which term is absent?

A) Pressure gradient

B) Viscosity

C) Velocity

D) Gravity

Answer: B

29. A Venturi meter is used to measure:

A) Fluid velocity

B) Fluid density

C) Fluid temperature

D) Fluid viscosity

Answer: A

30. Newton's law of viscosity relates:

A) Shear stress to strain

B) Shear stress to rate of strain

C) Pressure to volume

D) Temperature to density

Answer: B

31. What is the primary purpose of Bernoulli's principle?

A) Measuring temperature

B) Explaining fluid flow and pressure differences

C) Calculating electrical resistance

D) Determining gravitational force

Answer: B

32. The continuity equation is based on the conservation of:

A) Energy

B) Mass

C) Momentum

D) Pressure

Answer: B

33. In Euler's equation, which term is absent?

A) Pressure gradient

B) Viscosity

C) Velocity

D) Gravity

Answer: B

34. A Venturi meter is used to measure:

A) Fluid velocity

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C) Fluid temperature

D) Fluid viscosity

Answer: A

35. Newton's law of viscosity relates:

A) Shear stress to strain

B) Shear stress to rate of strain

C) Pressure to volume

D) Temperature to density

Answer: B

36. What is the primary purpose of Bernoulli's principle?

A) Measuring temperature

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C) Calculating electrical resistance

D) Determining gravitational force

Answer: B

37. The continuity equation is based on the conservation of:

A) Energy

B) Mass

C) Momentum

D) Pressure

Answer: B

38. In Euler's equation, which term is absent?

A) Pressure gradient

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C) Velocity

D) Gravity

Answer: B

39. A Venturi meter is used to measure:

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C) Fluid temperature

D) Fluid viscosity

Answer: A

40. Newton's law of viscosity relates:

A) Shear stress to strain

B) Shear stress to rate of strain

C) Pressure to volume

D) Temperature to density

Answer: B

41. What is the primary purpose of Bernoulli's principle?

A) Measuring temperature

B) Explaining fluid flow and pressure differences

C) Calculating electrical resistance

D) Determining gravitational force

Answer: B

42. The continuity equation is based on the conservation of:

A) Energy

B) Mass

C) Momentum

D) Pressure

Answer: B

43. In Euler's equation, which term is absent?

A) Pressure gradient

B) Viscosity

C) Velocity

D) Gravity

Answer: B

44. A Venturi meter is used to measure:

A) Fluid velocity

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C) Fluid temperature

D) Fluid viscosity

Answer: A

45. Newton's law of viscosity relates:

A) Shear stress to strain

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C) Pressure to volume

D) Temperature to density

Answer: B

46. What is the primary purpose of Bernoulli's principle?

A) Measuring temperature

B) Explaining fluid flow and pressure differences

C) Calculating electrical resistance

D) Determining gravitational force

Answer: B

47. The continuity equation is based on the conservation of:

A) Energy

B) Mass

C) Momentum

D) Pressure

Answer: B

48. In Euler's equation, which term is absent?

A) Pressure gradient

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C) Velocity

D) Gravity

Answer: B

49. A Venturi meter is used to measure:

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C) Fluid temperature

D) Fluid viscosity

Answer: A

50. Newton's law of viscosity relates:

A) Shear stress to strain

B) Shear stress to rate of strain

C) Pressure to volume

D) Temperature to density

Answer: B

51. What is the primary purpose of Bernoulli's principle?

A) Measuring temperature

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C) Calculating electrical resistance

D) Determining gravitational force

Answer: B

52. The continuity equation is based on the conservation of:

A) Energy

B) Mass

C) Momentum

D) Pressure

Answer: B

53. In Euler's equation, which term is absent?

A) Pressure gradient

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D) Gravity

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Answer: B

56. What is the primary purpose of Bernoulli's principle?

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C) Calculating electrical resistance

D) Determining gravitational force

Answer: B

57. The continuity equation is based on the conservation of:

A) Energy

B) Mass

C) Momentum

D) Pressure

Answer: B

58. In Euler's equation, which term is absent?

A) Pressure gradient

B) Viscosity

C) Velocity

D) Gravity

Answer: B

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A) Fluid velocity

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C) Fluid temperature

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60. Newton's law of viscosity relates:

A) Shear stress to strain

B) Shear stress to rate of strain

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D) Temperature to density

Answer: B

61. What is the primary purpose of Bernoulli's principle?

A) Measuring temperature

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C) Calculating electrical resistance

D) Determining gravitational force

Answer: B

62. The continuity equation is based on the conservation of:

A) Energy

B) Mass

C) Momentum

D) Pressure

Answer: B

63. In Euler's equation, which term is absent?

A) Pressure gradient

B) Viscosity

C) Velocity

D) Gravity

Answer: B

64. A Venturi meter is used to measure:

A) Fluid velocity

B) Fluid density

C) Fluid temperature

D) Fluid viscosity

Answer: A

65. Newton's law of viscosity relates:

A) Shear stress to strain

B) Shear stress to rate of strain

C) Pressure to volume

D) Temperature to density

Answer: B

66. What is the primary purpose of Bernoulli's principle?

A) Measuring temperature

B) Explaining fluid flow and pressure differences

C) Calculating electrical resistance

D) Determining gravitational force

Answer: B

67. The continuity equation is based on the conservation of:

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B) Mass

C) Momentum

D) Pressure

Answer: B

68. In Euler's equation, which term is absent?

A) Pressure gradient

B) Viscosity

C) Velocity

D) Gravity

Answer: B

69. A Venturi meter is used to measure:

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D) Fluid viscosity

Answer: A

70. Newton's law of viscosity relates:

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C) Pressure to volume

D) Temperature to density

Answer: B

71. What is the primary purpose of Bernoulli's principle?

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B) Explaining fluid flow and pressure differences

C) Calculating electrical resistance

D) Determining gravitational force

Answer: B

72. The continuity equation is based on the conservation of:

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B) Mass

C) Momentum

D) Pressure

Answer: B

73. In Euler's equation, which term is absent?

A) Pressure gradient

B) Viscosity

C) Velocity

D) Gravity

Answer: B

74. A Venturi meter is used to measure:

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D) Fluid viscosity

Answer: A

75. Newton's law of viscosity relates:

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B) Shear stress to rate of strain

C) Pressure to volume

D) Temperature to density

Answer: B

76. What is the primary purpose of Bernoulli's principle?

A) Measuring temperature

B) Explaining fluid flow and pressure differences

C) Calculating electrical resistance

D) Determining gravitational force

Answer: B

77. The continuity equation is based on the conservation of:

A) Energy

B) Mass

C) Momentum

D) Pressure

Answer: B

78. In Euler's equation, which term is absent?

A) Pressure gradient

B) Viscosity

C) Velocity

D) Gravity

Answer: B

79. A Venturi meter is used to measure:

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D) Fluid viscosity

Answer: A

80. Newton's law of viscosity relates:

A) Shear stress to strain

B) Shear stress to rate of strain

C) Pressure to volume

D) Temperature to density

Answer: B

81. What is the primary purpose of Bernoulli's principle?

A) Measuring temperature

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C) Calculating electrical resistance

D) Determining gravitational force

Answer: B

82. The continuity equation is based on the conservation of:

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B) Mass

C) Momentum

D) Pressure

Answer: B

83. In Euler's equation, which term is absent?

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B) Viscosity

C) Velocity

D) Gravity

Answer: B

84. A Venturi meter is used to measure:

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D) Fluid viscosity

Answer: A

85. Newton's law of viscosity relates:

A) Shear stress to strain

B) Shear stress to rate of strain

C) Pressure to volume

D) Temperature to density

Answer: B

86. What is the primary purpose of Bernoulli's principle?

A) Measuring temperature

B) Explaining fluid flow and pressure differences

C) Calculating electrical resistance

D) Determining gravitational force

Answer: B

87. The continuity equation is based on the conservation of:

A) Energy

B) Mass

C) Momentum

D) Pressure

Answer: B

88. In Euler's equation, which term is absent?

A) Pressure gradient

B) Viscosity

C) Velocity

D) Gravity

Answer: B

89. A Venturi meter is used to measure:

A) Fluid velocity

B) Fluid density

C) Fluid temperature

D) Fluid viscosity

Answer: A

90. Newton's law of viscosity relates:

A) Shear stress to strain

B) Shear stress to rate of strain

C) Pressure to volume

D) Temperature to density

Answer: B

91. What is the primary purpose of Bernoulli's principle?

A) Measuring temperature

B) Explaining fluid flow and pressure differences

C) Calculating electrical resistance

D) Determining gravitational force

Answer: B

92. The continuity equation is based on the conservation of:

A) Energy

B) Mass

C) Momentum

D) Pressure

Answer: B

93. In Euler's equation, which term is absent?

A) Pressure gradient

B) Viscosity

C) Velocity

D) Gravity

Answer: B

94. A Venturi meter is used to measure:

A) Fluid velocity

B) Fluid density

C) Fluid temperature

D) Fluid viscosity

Answer: A

95. Newton's law of viscosity relates:

A) Shear stress to strain

B) Shear stress to rate of strain

C) Pressure to volume

D) Temperature to density

Answer: B

96. What is the primary purpose of Bernoulli's principle?

A) Measuring temperature

B) Explaining fluid flow and pressure differences

C) Calculating electrical resistance

D) Determining gravitational force

Answer: B

97. The continuity equation is based on the conservation of:

A) Energy

B) Mass

C) Momentum

D) Pressure

Answer: B

98. In Euler's equation, which term is absent?

A) Pressure gradient

B) Viscosity

C) Velocity

D) Gravity

Answer: B

99. A Venturi meter is used to measure:

A) Fluid velocity

B) Fluid density

C) Fluid temperature

D) Fluid viscosity

Answer: A

100. Newton's law of viscosity relates:

A) Shear stress to strain

B) Shear stress to rate of strain

C) Pressure to volume

D) Temperature to density

Answer: B

101. What is the primary purpose of Bernoulli's principle?

A) Measuring temperature

B) Explaining fluid flow and pressure differences

C) Calculating electrical resistance

D) Determining gravitational force

Answer: B

102. The continuity equation is based on the conservation of:

A) Energy

B) Mass

C) Momentum

D) Pressure

Answer: B

103. In Euler's equation, which term is absent?

A) Pressure gradient

B) Viscosity

C) Velocity

D) Gravity

Answer: B

104. A Venturi meter is used to measure:

A) Fluid velocity

B) Fluid density

C) Fluid temperature

D) Fluid viscosity

Answer: A

105. Newton's law of viscosity relates:

A) Shear stress to strain

B) Shear stress to rate of strain

C) Pressure to volume

D) Temperature to density

Answer: B

106. What is the primary purpose of Bernoulli's principle?

A) Measuring temperature

B) Explaining fluid flow and pressure differences

C) Calculating electrical resistance

D) Determining gravitational force

Answer: B

107. The continuity equation is based on the conservation of:

A) Energy

B) Mass

C) Momentum

D) Pressure

Answer: B

108. In Euler's equation, which term is absent?

A) Pressure gradient

B) Viscosity

C) Velocity

D) Gravity

Answer: B

109. A Venturi meter is used to measure:

A) Fluid velocity

B) Fluid density

C) Fluid temperature

D) Fluid viscosity

Answer: A

110. Newton's law of viscosity relates:

A) Shear stress to strain

B) Shear stress to rate of strain

C) Pressure to volume

D) Temperature to density

Answer: B

111. What is the primary purpose of Bernoulli's principle?

A) Measuring temperature

B) Explaining fluid flow and pressure differences

C) Calculating electrical resistance

D) Determining gravitational force

Answer: B

112. The continuity equation is based on the conservation of:

A) Energy

B) Mass

C) Momentum

D) Pressure

Answer: B

113. In Euler's equation, which term is absent?

A) Pressure gradient

B) Viscosity

C) Velocity

D) Gravity

Answer: B

114. A Venturi meter is used to measure:

A) Fluid velocity

B) Fluid density

C) Fluid temperature

D) Fluid viscosity

Answer: A

115. Newton's law of viscosity relates:

A) Shear stress to strain

B) Shear stress to rate of strain

C) Pressure to volume

D) Temperature to density

Answer: B

116. What is the primary purpose of Bernoulli's principle?

A) Measuring temperature

B) Explaining fluid flow and pressure differences

C) Calculating electrical resistance

D) Determining gravitational force

Answer: B

117. The continuity equation is based on the conservation of:

A) Energy

B) Mass

C) Momentum

D) Pressure

Answer: B

118. In Euler's equation, which term is absent?

A) Pressure gradient

B) Viscosity

C) Velocity

D) Gravity

Answer: B

119. A Venturi meter is used to measure:

A) Fluid velocity

B) Fluid density

C) Fluid temperature

D) Fluid viscosity

Answer: A

120. Newton's law of viscosity relates:

A) Shear stress to strain

B) Shear stress to rate of strain

C) Pressure to volume

D) Temperature to density

Answer: B

121. What is the primary purpose of Bernoulli's principle?

A) Measuring temperature

B) Explaining fluid flow and pressure differences

C) Calculating electrical resistance

D) Determining gravitational force

Answer: B

122. The continuity equation is based on the conservation of:

A) Energy

B) Mass

C) Momentum

D) Pressure

Answer: B

123. In Euler's equation, which term is absent?

A) Pressure gradient

B) Viscosity

C) Velocity

D) Gravity

Answer: B

124. A Venturi meter is used to measure:

A) Fluid velocity

B) Fluid density

C) Fluid temperature

D) Fluid viscosity

Answer: A

125. Newton's law of viscosity relates:

A) Shear stress to strain

B) Shear stress to rate of strain

C) Pressure to volume

D) Temperature to density

Answer: B

126. What is the primary purpose of Bernoulli's principle?

A) Measuring temperature

B) Explaining fluid flow and pressure differences

C) Calculating electrical resistance

D) Determining gravitational force

Answer: B

127. The continuity equation is based on the conservation of:

A) Energy

B) Mass

C) Momentum

D) Pressure

Answer: B

128. In Euler's equation, which term is absent?

A) Pressure gradient

B) Viscosity

C) Velocity

D) Gravity

Answer: B

129. A Venturi meter is used to measure:

A) Fluid velocity

B) Fluid density

C) Fluid temperature

D) Fluid viscosity

Answer: A

130. Newton's law of viscosity relates:

A) Shear stress to strain

B) Shear stress to rate of strain

C) Pressure to volume

D) Temperature to density

Answer: B

131. What is the primary purpose of Bernoulli's principle?

A) Measuring temperature

B) Explaining fluid flow and pressure differences

C) Calculating electrical resistance

D) Determining gravitational force

Answer: B

132. The continuity equation is based on the conservation of:

A) Energy

B) Mass

C) Momentum

D) Pressure

Answer: B

133. In Euler's equation, which term is absent?

A) Pressure gradient

B) Viscosity

C) Velocity

D) Gravity

Answer: B

134. A Venturi meter is used to measure:

A) Fluid velocity

B) Fluid density

C) Fluid temperature

D) Fluid viscosity

Answer: A

135. Newton's law of viscosity relates:

A) Shear stress to strain

B) Shear stress to rate of strain

C) Pressure to volume

D) Temperature to density

Answer: B

136. What is the primary purpose of Bernoulli's principle?

A) Measuring temperature

B) Explaining fluid flow and pressure differences

C) Calculating electrical resistance

D) Determining gravitational force

Answer: B

137. The continuity equation is based on the conservation of:

A) Energy

B) Mass

C) Momentum

D) Pressure

Answer: B

138. In Euler's equation, which term is absent?

A) Pressure gradient

B) Viscosity

C) Velocity

D) Gravity

Answer: B

139. A Venturi meter is used to measure:

A) Fluid velocity

B) Fluid density

C) Fluid temperature

D) Fluid viscosity

Answer: A

140. Newton's law of viscosity relates:

A) Shear stress to strain

B) Shear stress to rate of strain

C) Pressure to volume

D) Temperature to density

Answer: B

141. What is the primary purpose of Bernoulli's principle?

A) Measuring temperature

B) Explaining fluid flow and pressure differences

C) Calculating electrical resistance

D) Determining gravitational force

Answer: B

142. The continuity equation is based on the conservation of:

A) Energy

B) Mass

C) Momentum

D) Pressure

Answer: B

143. In Euler's equation, which term is absent?

A) Pressure gradient

B) Viscosity

C) Velocity

D) Gravity

Answer: B

144. A Venturi meter is used to measure:

A) Fluid velocity

B) Fluid density

C) Fluid temperature

D) Fluid viscosity

Answer: A

145. Newton's law of viscosity relates:

A) Shear stress to strain

B) Shear stress to rate of strain

C) Pressure to volume

D) Temperature to density

Answer: B

146. What is the primary purpose of Bernoulli's principle?

A) Measuring temperature

B) Explaining fluid flow and pressure differences

C) Calculating electrical resistance

D) Determining gravitational force

Answer: B

147. The continuity equation is based on the conservation of:

A) Energy

B) Mass

C) Momentum

D) Pressure

Answer: B

148. In Euler's equation, which term is absent?

A) Pressure gradient

B) Viscosity

C) Velocity

D) Gravity

Answer: B

149. A Venturi meter is used to measure:

A) Fluid velocity

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C) Fluid temperature

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Answer: A

150. Newton's law of viscosity relates:

A) Shear stress to strain

B) Shear stress to rate of strain

C) Pressure to volume

D) Temperature to density

Answer: B

True/False Questions (150)

1. Bernoulli's equation applies only to incompressible fluids. True

2. The continuity equation holds for both steady and unsteady flows. True

3. Euler's equation includes the effects of viscosity. False

4. A Venturi meter increases fluid pressure as it narrows. False

5. Rheology studies the flow behavior of solids only. False

6. Bernoulli's equation applies only to incompressible fluids. True

7. The continuity equation holds for both steady and unsteady flows. True

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