

1. Which components are sometimes omitted from needle bearings?

- a) Inner ring
- b) Rolling elements
- c) Outer ring
- d) Cage

2. Which properties apply to needle bearings?

- a) They are mainly used as floating bearings
- b) They have a large cross-section and are thus larger than other bearing types
- c) The rolling element diameter is smaller than 10 millimetres
- d) There is line contact with the raceway

3. The length-to-diameter ratio of the rolling elements of needle bearings is between 3:1 and 10:1.

- a) Correct
- b) Incorrect

4. Despite the small diameter of their rolling elements, needle bearings achieve relatively high load ratings.

- a) Correct
- b) Incorrect

5. What are the disadvantages of needle bearings?

- a) Increased noise level
- b) The areas rolled over by the rolling elements overlap even with small movements
- c) They are difficult to assemble
- d) They have low stiffness
- e) They are comparatively expensive
- f) As a rule, they are not suitable for absorbing axial loads
- g) They are not necessarily suitable for high speeds

6. A full complement needle roller bearing can be used without hesitation even at high temperatures.

- a) Correct
- b) Incorrect

7. What is the difference between needle roller and cage assemblies and other needle roller bearings?

- a) The rolling elements of needle roller and cage assemblies are thinner than in other needle roller bearings
- b) There are more stringent requirements for the needle rollers of needle roller and cage assemblies
- c) Needle roller and cage assemblies require more lubrication
- d) Needle roller and cage assemblies lack the inner and outer ring

8. Needle bushings are a subtype of needle cages.

- a) Correct
- b) Incorrect

9. Which statements apply to solid ring needle roller bearings?

- a) They have a solid outer ring
- b) The stiffness is higher than with other needle bearing types
- c) They are not suitable for high speeds or high loads
- d) They may have an oil hole in the outer ring

10. What are the differences between yoke and stud type track rollers?

- a) Yoke rollers do not rotate continuously at high speeds
- b) Stud rollers have a solid outer ring
- c) Stud type track rollers always have a stud
- d) Yoke rollers can also function as guide or support roller for straight or curved paths

11. Which statements apply to the sealing of needle bearings?

- a) Needle roller bearings with seals are more common than needle roller bearings without seals
- b) There are no needle bearings with seals
- c) Only seals made of nitrile rubber are used
- d) There are seals that can effectively protect the bearing from foreign particles