

Name: _____

Date: _____

1. What am I?

a) I am the motion transmission system of choice for dramatically reducing the speed of a rotational motion during transmission.

Worm and worm gear

b) I am the number of teeth on a gear that turns twice as fast as a gear with eight teeth in a motion transmission system.

4 teeth (8/2)

c) I am the diameter of a pulley that turns four times more slowly than a five-centimetre pulley in a motion transmission system.

20 cm (4 X 5cm)

2. For each of the following statements, determine whether there is an increase, decrease or no change in speed during motion transmission.

a) Motion is transmitted from a friction gear two centimetres in diameter to a friction gear three centimetres in diameter.

decrease

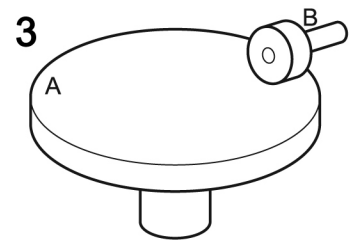
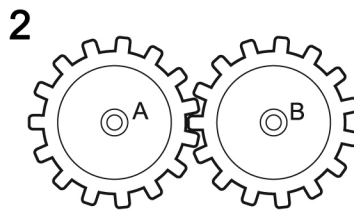
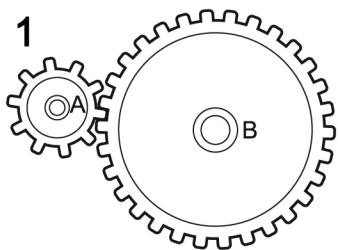
b) In a gear train, the motion of a gear with eight teeth is transmitted to a gear with six teeth.

Increase

c) In a gear train, the motion of a gear five centimetres in diameter is transmitted to a gear four centimetres in diameter.

increase

3. Look at the three motion transmission systems below.



a) In which of these three systems will there be an increase in speed when motion is transmitted from component A to component B? Explain your answer.

#3, Motion is being transmitted from a larger diameter to a smaller diameter.

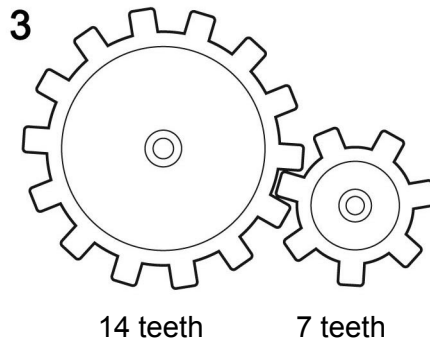
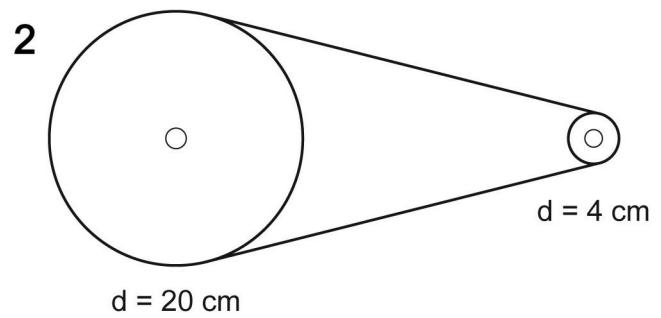
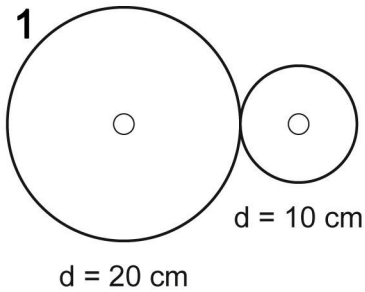
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b) In which of these three systems will there be a decrease in speed when motion is transmitted from component A to component B? Explain your answer.

#1, because motion is transmitted from a smaller gear, with fewer teeth, to a larger gear with more teeth. .

4. Look at the three motion transmission systems below.



In which of these three systems does the biggest speed change occur? Explain your answer.

#2, The speed ratio is the greatest.

1. $20/10 = 2$

2. $20/4 = 5$

3. $14/7 = 2$
