PLANETARY GEAR OPERATION

ALL SIX COMBINATIONS | Student worksheet

Name: _____ Date: _____ Class: _____

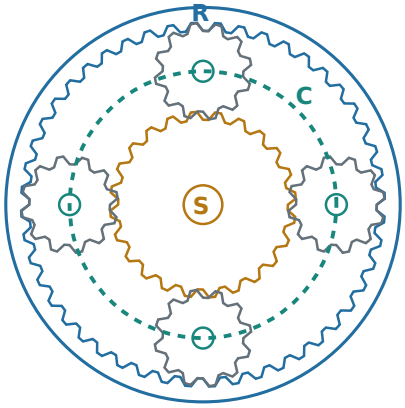
Assume every drive (input) member rotates CLOCKWISE as viewed on this page.

Draw arrows for the sun, ring, carrier, and pinions. Mark the fixed member with an X.

Compare output speed and torque magnitudes to input; ignore losses. Enter CW or CCW for direction.

S Sun gear **R Ring gear** **C Carrier (dashed)** Gray gears: planet pinions

1. SUN GEAR HELD



Fixed member	Drive / input	Driven / output
Sun gear	Ring gear	Carrier

OUTPUT RESULTS

Speed: _____

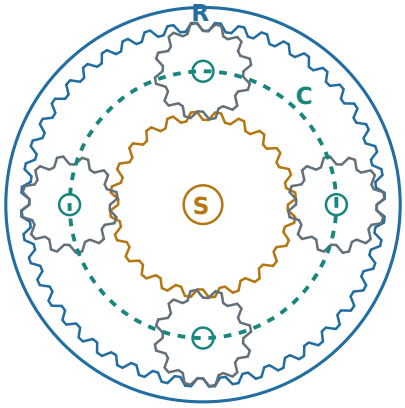
Torque: _____

Direction: _____

Speed / torque: increase or decrease. Direction: CW or CCW.

Circle: Reduction / Overdrive / Reverse

2. SUN GEAR HELD



Fixed member	Drive / input	Driven / output
Sun gear	Carrier	Ring gear

OUTPUT RESULTS

Speed: _____

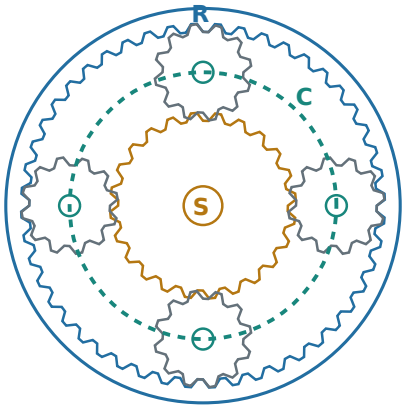
Torque: _____

Direction: _____

Speed / torque: increase or decrease. Direction: CW or CCW.

Circle: Reduction / Overdrive / Reverse

3. RING GEAR HELD



Fixed member	Drive / input	Driven / output
Ring gear	Sun gear	Carrier

OUTPUT RESULTS

Speed: _____

Torque: _____

Direction: _____

Speed / torque: increase or decrease. Direction: CW or CCW.

Circle: Reduction / Overdrive / Reverse

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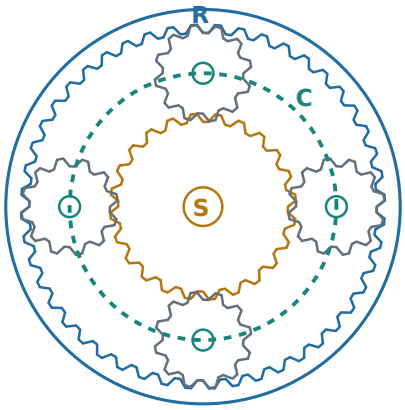
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S Sun gear **R Ring gear** **C Carrier (dashed)** Gray gears: planet pinions

4. RING GEAR HELD



Fixed member	Drive / input	Driven / output
Ring gear	Carrier	Sun gear

OUTPUT RESULTS

Speed: _____

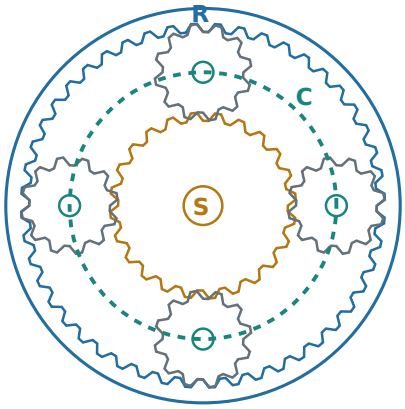
Torque: _____

Direction: _____

Speed / torque: increase or decrease. Direction: CW or CCW.

Circle: Reduction / Overdrive / Reverse

5. CARRIER HELD



Fixed member	Drive / input	Driven / output
Carrier	Sun gear	Ring gear

OUTPUT RESULTS

Speed: _____

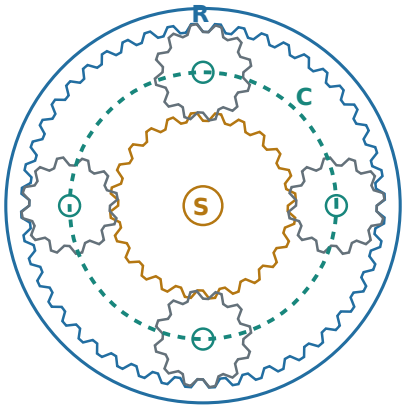
Torque: _____

Direction: _____

Speed / torque: increase or decrease. Direction: CW or CCW.

Circle: Reduction / Overdrive / Reverse

6. CARRIER HELD



Fixed member	Drive / input	Driven / output
Carrier	Ring gear	Sun gear

OUTPUT RESULTS

Speed: _____

Torque: _____

Direction: _____

Speed / torque: increase or decrease. Direction: CW or CCW.

Circle: Reduction / Overdrive / Reverse