

Graphs & Inverses of Trig Functions

3A – Parent Graphs of Tangent & Cotangent

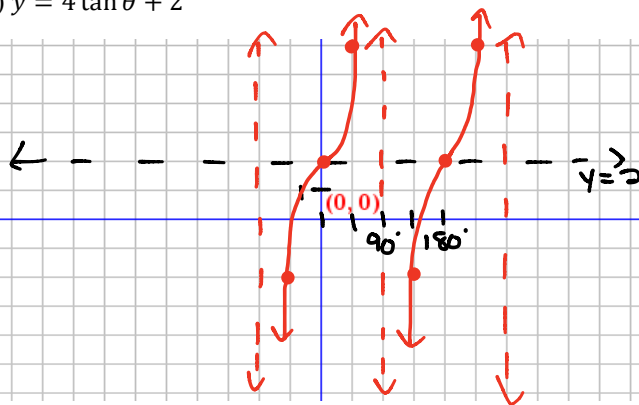
Graph a minimum of two periods of each function.
Use DEGREES.

#1) $y = \frac{1}{5} \tan \theta$



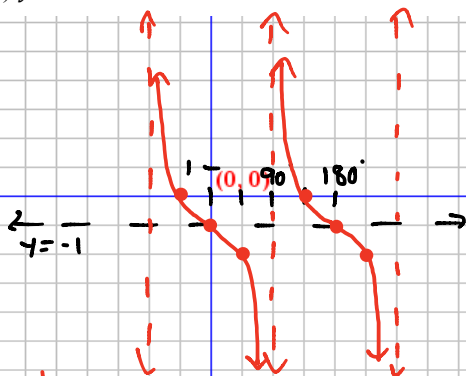
A: $\frac{1}{5}$
~~Amplitude:~~
 Reflected over midline? *NO*
 Vertical Displacement: 0
 Midline: $y=0$
 Phase Shift: 0
 Period: 180°

#3) $y = 4 \tan \theta + 2$



A: 4
~~Amplitude:~~
 Reflected over midline? *NO*
 Vertical Displacement: 2
 Midline: $y=2$
 Phase Shift: 0°
 Period: 180°

#2) $y = -\tan \theta - 1$



A: -1
~~Amplitude:~~
 Reflected over midline? *Yes*
 Vertical Displacement: -1
 Midline: $y=-1$
 Phase Shift: 0
 Period: 180°

#4) $y = -\frac{1}{3} \tan \theta - 2$



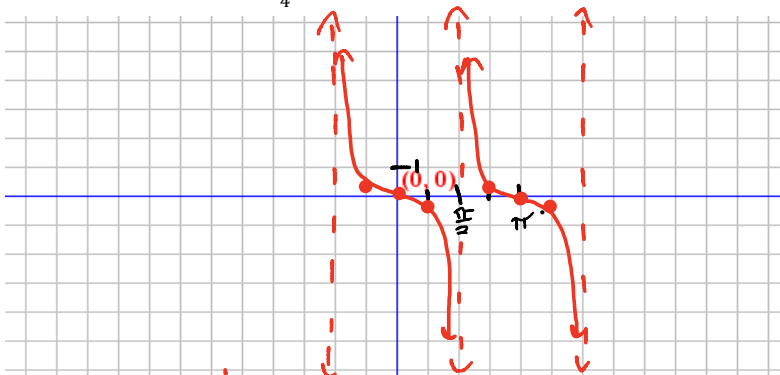
A: $-\frac{1}{3}$
~~Amplitude:~~
 Reflected over midline? *Yes*
 Vertical Displacement: -2
 Midline: $y=-2$
 Phase Shift: 0
 Period: 180°

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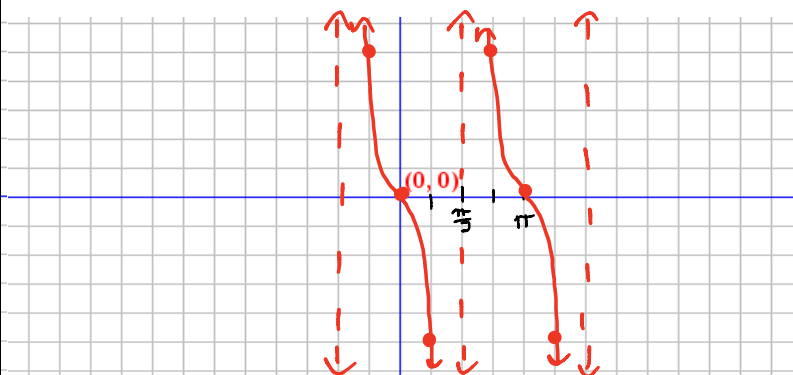
Graph a minimum of two periods for each function.
Use RADIANS.

#5) $y = -\frac{1}{4} \tan \theta$



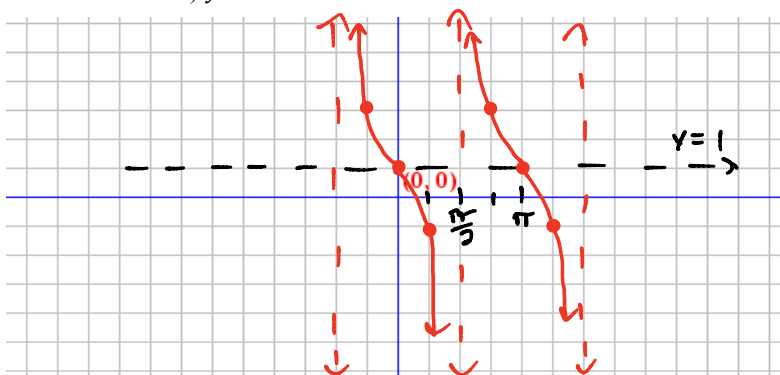
A: $-\frac{1}{4}$
~~Amplitude:~~
 Reflected over midline? **Yes**
 Vertical Displacement: 0
 Midline: $y=0$
 Phase Shift: 0
 Period: π

#7) $y = -5 \tan \theta$



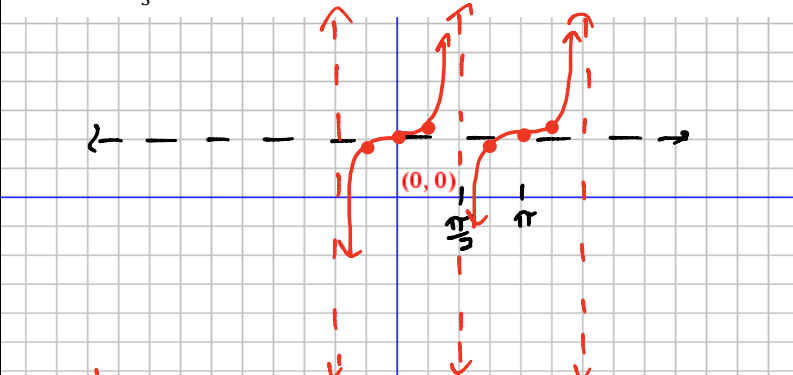
A: -5
~~Amplitude:~~
 Reflected over midline? **Yes**
 Vertical Displacement: 0
 Midline: $y=0$
 Phase Shift: 0
 Period: π

#6) $y = -2 \tan \theta + 1$



A: -2
~~Amplitude:~~
 Reflected over midline? **Yes**
 Vertical Displacement: 1
 Midline: $y=1$
 Phase Shift: 0
 Period: π

#8) $y = \frac{1}{3} \tan \theta + 2$



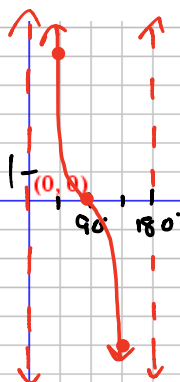
A: $\frac{1}{3}$
~~Amplitude:~~
 Reflected over midline? **NO**
 Vertical Displacement: 2
 Midline: $y=2$
 Phase Shift: 0
 Period: π

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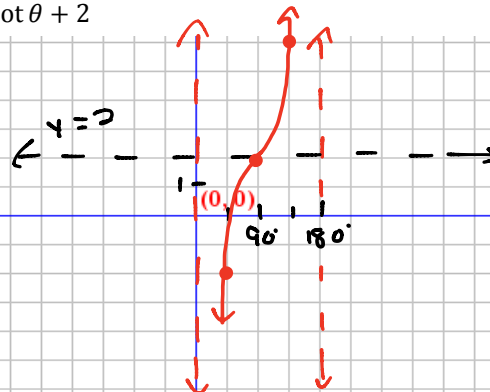
Graph a minimum of one period for each function.
Use DEGREES.

#9) $y = 5 \cot \theta$



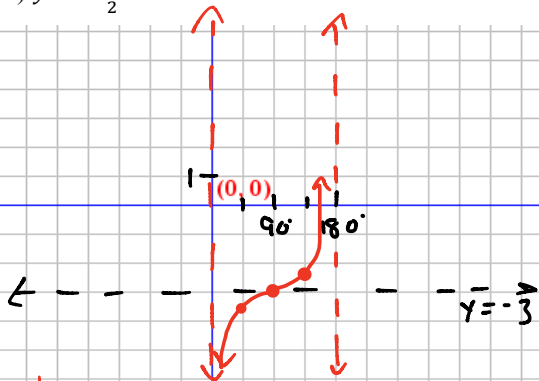
A: 5
~~Amplitude:~~
 Reflected over midline? *no*
 Vertical Displacement: 0
 Midline: $y=0$
 Phase Shift: 0
 Period: 180°

#11) $y = -4 \cot \theta + 2$



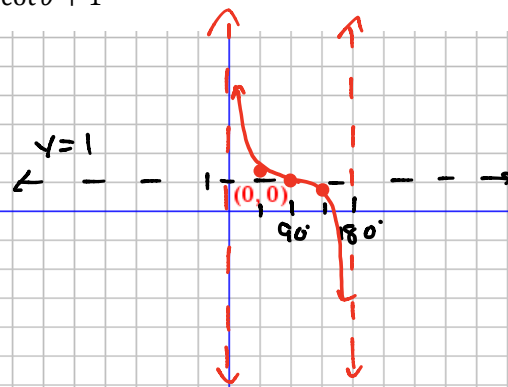
A: -4
~~Amplitude:~~
 Reflected over midline? *yes*
 Vertical Displacement: 2
 Midline: $y=2$
 Phase Shift: 0
 Period: 180°

#10) $y = -\frac{1}{2} \cot \theta - 3$



A: $-\frac{1}{2}$
~~Amplitude:~~
 Reflected over midline? *yes*
 Vertical Displacement: -3
 Midline: $y=-3$
 Phase Shift: 0
 Period: 180°

#12) $y = \frac{1}{3} \cot \theta + 1$



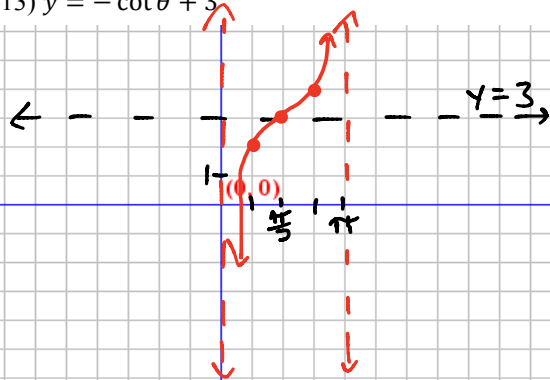
A: $\frac{1}{3}$
~~Amplitude:~~
 Reflected over midline? *no*
 Vertical Displacement: 1
 Midline: $y=1$
 Phase Shift: 0
 Period: 180°

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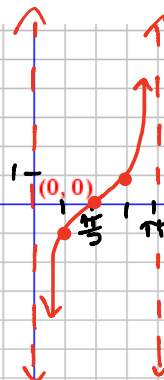
Graph a minimum of one period for each function
Use RADIANS.

#13) $y = -\cot \theta + 3$



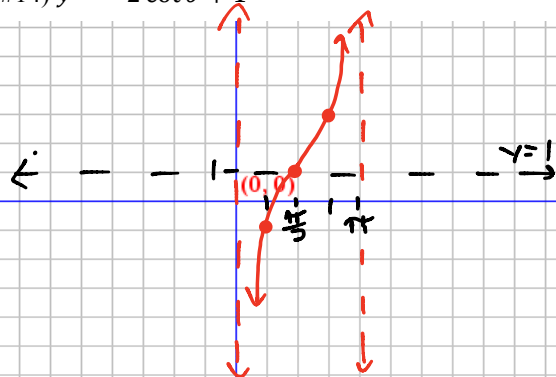
- A: -1
- ~~Amplitude:~~
- Reflected over midline? Yes
- Vertical Displacement: 3
- Midline: $y=3$
- Phase Shift: 0
- Period: π

#15) $y = -\cot \theta$



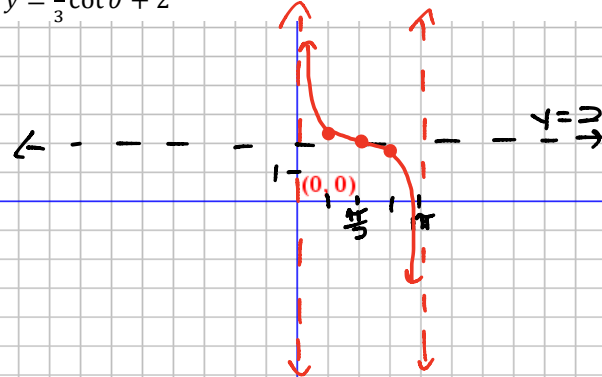
- A: -1
- ~~Amplitude:~~
- Reflected over midline? Yes
- Vertical Displacement: 0
- Midline: $y=0$
- Phase Shift: 0
- Period: π

#14) $y = -2 \cot \theta + 1$



- A: -2
- ~~Amplitude:~~
- Reflected over midline? Yes
- Vertical Displacement: 1
- Midline: $y=1$
- Phase Shift: 0
- Period: π

#16) $y = \frac{1}{3} \cot \theta + 2$



- A: $\frac{1}{3}$
- ~~Amplitude:~~
- Reflected over midline? NO
- Vertical Displacement: 2
- Midline: $y=2$
- Phase Shift: 0
- Period: π