

In [1]:

```
# Q.no 1
# a
radius = float(input("enter the radius "))
angular_speed = int(input("enter the angular_speed "))
linear_velocity = (radius*angular_speed)
print(linear_velocity)
# b
radius = int(input("enter the radius"))
angular_speed = int(input("enter the angular_speed "))
linear_velocity = (radius*angular_speed)
print(linear_velocity)
# c
radius = int(input("enter the radius "))
angular_speed = int(input("enter the angular_speed "))
linear_velocity = (radius*angular_speed)
print(linear_velocity)
```

```
enter the radius 0.5
enter the angular_speed 10
5.0
enter the radius 1
enter the angular_speed 10
10
enter the radius 2
enter the angular_speed 10
20
```

In [3]:

```
# Q.no 2
# a
radius = int(input("enter the radius "))
angular_speed = float(input("enter the angular_speed "))
linear_velocity = (radius*angular_speed)
print("linear_velocity is:", linear_velocity)
# b
radius = int(input("enter the radius "))
angular_speed = float(input("enter the angular_speed "))
linear_velocity = (radius*angular_speed)
print("linear_velocity is:", linear_velocity)
```

```
enter the radius 5
enter the angular_speed 523.3
linear_velocity is: 2616.5
enter the radius 10
enter the angular_speed 523.3
linear_velocity is: 5233.0
```

In [5]:

```
# Q.no 3
radius = 3
linear_velocity = 10
angular_velocity = (radius*linear_velocity)
print("the angular_velocity is:", angular_velocity)
```

```
the angular_velocity is: 30
```

In [1]:

```
# Q.no 4
radius = 0.25
linear_speed = 10
angular_speed = (radius*linear_speed)
print("angular speed is:", angular_speed)
```

```
angular speed is: 2.5
```

angular speed is: 2.5

In [3]:

```
# Q.no 5
radius = 0.2
angular_speed = 12.56
distance = (radius*angular_speed)
print("the distance is:", distance)
```

the distance is: 2.5120000000000005

In [4]:

```
# Q.no 6
u = 50
a = 10
t = 2
distance = (u+a*t)
print("the distance is:", distance)
```

the distance is: 70

In [2]:

```
# Q.no 7
import math
h = int(input("enter the height (in feet):"))
g = int(input("enter the acceleration due to gravity (in feet/sec**2):"))
u = int(input("enter the initial_velocity (in feet/sec):"))
velocity = math.sqrt(2*g*h + 0**2)
print("the velocity by it will hit the ground is:", velocity)
```

enter the height (in feet):100
enter the acceleration due to gravity (in feet/sec**2):32
enter the initial_velocity (in feet/sec):0
the velocity by it will hit the ground is: 80.0