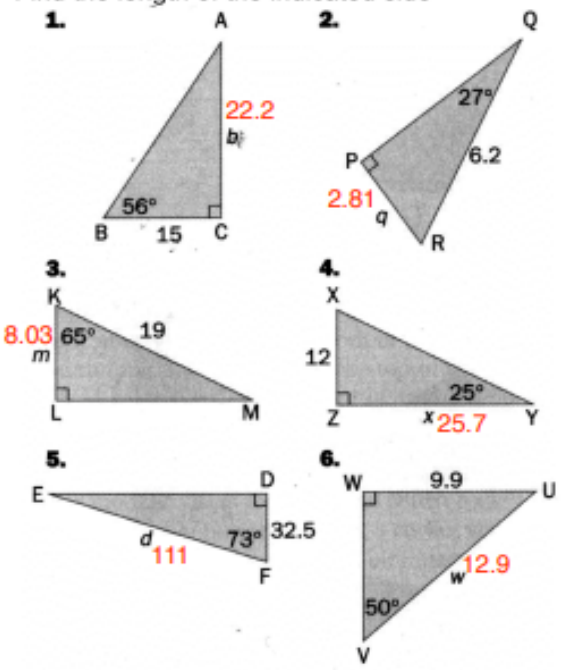
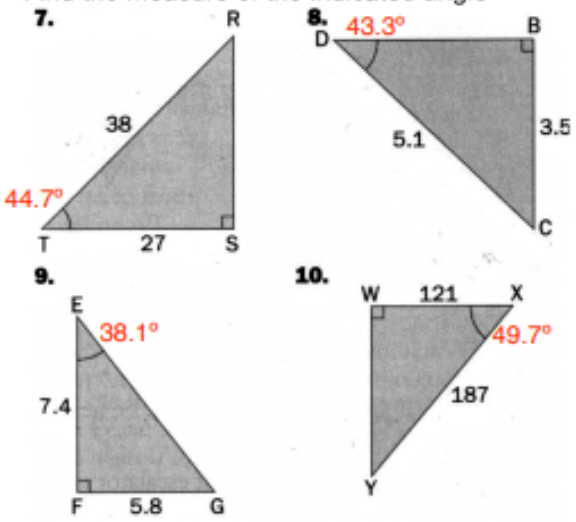
Trigonometry

Find the length of the indicated side



Find the measure of the indicated angle



Vectors

1. a) 7.0 m west
b) 340 km [19° N of E]
c) 10 m [24° S of W]
d) 360 km [22° S of W]

2. 29 m/s [31° N of S]

3. 77 m/s [13° W of N]

4. a) 6.9 km/h [26° S of E]
b) 6.2 km/h east

5. 21° E of S

6. a) 27 m/s
b) 25.° west of south

Horizontal Projectile

1. 1.8 m

2. 1.2 m

3. 180 m

4. 17.0 m/s

5.
a) 120 m
b) 150 m

6. 18 m

7. Yes, the rock passes over the tree (it is 9.4 m high at 11 m horizontally)

8.
a) Linear
b) Parabolic
c) Constant
d) Linear
e) Constant (zero)
f) Constant (-9.8 m/s^2)

Projectile Motion at Angles

1. a) Vyi =60m/s Vx = 100m/s

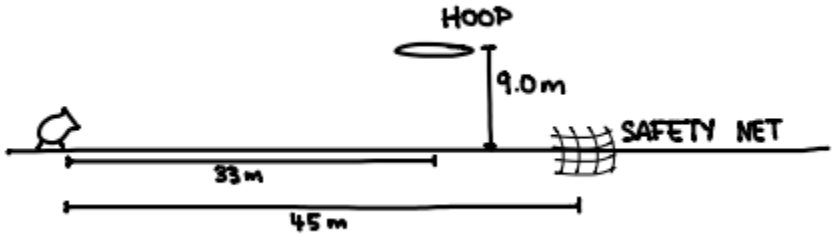
b) 12.0 s
c) 1300 m

2. a) 25 m/s 59° above the horizontal
b) 25 m/s 59° below the horizontal
c) 23 m

3. a) 2.4 s
b) 34 m
c) 18.3 m/s [40.0° below the horizontal]

4. a) 45.0 m
b) 2.1928s

c) 33 m



5.

a) 610 m
b) 87 m/s at 34° below the horizontal
c) 118 m
d) 15m