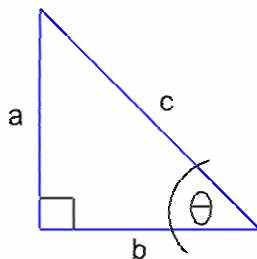


Name: _____ Date: _____ Class: _____

Magnet Physics Essential Math Review

Using the trigonometric functions of sine, cosine, and tangent, solve for each of the following with regards to the right triangle below.



1. side a, in terms of side b and angle A
2. side a, in terms of side c and angle A
3. side b, in terms of side a and angle A
4. side b, in terms of side c and angle A
5. side c, in terms of side a and angle A
6. side c, in terms of side b and angle A

If the measurements for the sides a, b, and c, are 5, 12, and 13 units, respectively, solve for the following.

1. $\sin\theta$
2. $\cos\theta$
3. $\tan\theta$

Solve for the desired variable in the equations below.

1. $t, v_f = v_0 + at$
2. $v_0, v_f^2 = v_0^2 + 2a\Delta x$
3. $v_f, m(v_f - v_0) = Ft$
4. $v, a_c = \frac{v^2}{r}$
5. $r, F = \frac{kq_1q_2}{r^2}$
6. $d, P = \frac{Fd}{t}$

In the systems of equations below, solve for a using substitution.

1. Solve for "a": $F - 3g = -3a$
 $F - 2g = 2a$

2. Solve for " F_1 & F_2 ": $F_1 \cos 30 - F_2 \cos 45 = 0$
 $F_1 \sin 30 + F_2 \sin 45 = 200$

3. Solve for "r": $F_e = \frac{4}{r^2}$
 $F_e = \frac{8}{(3-r)^2}$

Express the metric values below in terms of the base unit in proper scientific notation.

1. 3.2 mm

2. 0.045 kg

3. 6.7 μ s

4. 5.4 km

5. 450 nm

6. 2.1 nC

7. 125 pg