

1. What is $\left(\frac{4}{5}\right)\left(\frac{5}{10}\right)$?

- (a) $4/5$
- (b) $14/10$
- (c) $9/15$
- (d) $2/5$
- (e) $40/25$

2. Solve for x : $x - y = 5x + 2$

- (a) $-\frac{y}{4} + \frac{1}{2}$
- (b) $\frac{4}{y} + 2$
- (c) $(5x + 2) + y$
- (d) $-\frac{1}{4}(y + 2)$
- (e) $\frac{-y}{5x + 2}$

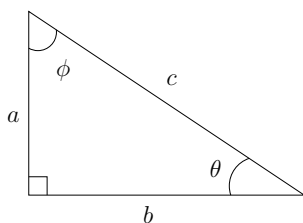
3. If you've traveled at an average speed of 68 mph and gone for 88 miles, how long was your trip?

- (a) 0.77 hrs
- (b) 1.2 hrs
- (c) 1.3 hrs
- (d) 5.9 hrs
- (e) 20 hrs

4. Solve for k : $3k + 17 = \frac{1}{2}(k + 2) - 8$

- (a) -9.60
- (b) -6.67
- (c) -6.57
- (d) 6.57
- (e) 9.60

5. In the right-angled triangle shown, which of the following is true? There may be more than one correct answer, but choose only one



- (a) $\tan^{-1}(b/c) = \phi$
- (b) $\tan^{-1}(b/a) = \theta$
- (c) $\tan^{-1}(a/b) = \theta$
- (d) $\tan^{-1}(a/b) = \phi$
- (e) $\tan^{-1}(a/c) = \theta$

6. If a sphere has a radius of 0.50 m, then the surface area of the sphere is

- (a) 6.28 m^2
- (b) 0.32 m^2
- (c) 12.6 m^2
- (d) 3.14 m^2
- (e) 0.16 m^2

7. $z^3 z^{-4}$ is the same as

- (a) $1/z$
- (b) z
- (c) $z^{3/4}$
- (d) z^{-12}
- (e) z^{12}

8. Solve for t : $4t^2 - 8t = 2$

- (a) $\frac{2 \pm \sqrt{-6}}{2}$
- (b) $\frac{\sqrt{2 \pm 6}}{2}$
- (c) $1 \pm \frac{\sqrt{6}}{2}$
- (d) $\sqrt{\frac{2 \pm \sqrt{6}}{2}}$
- (e) $3 \pm \frac{\sqrt{6}}{2}$

9. If Alice is half as heavy as Bob, and Bob is three times heavier than his dog, we can conclude that:

- (a) Alice is 0.67 times the weight of the dog
- (b) Alice is 1.5 times the weight of the dog
- (c) Alice is 6 times the weight of the dog
- (d) Alice is 0.16 times the weight of the dog
- (e) There is not enough information to determine a relationship between Alice's weight and the dog's.

10. Solve the indefinite integral $\int u(t) dt$, where $u(t) = u_o + at$ given u_o , a and x_o are all constants:

- (a) at
- (b) $u_o t + \frac{1}{2}at^2$
- (c) a
- (d) x_o
- (e) $x_o + u_o t + \frac{1}{2}at^2$