1 Elementary algebra. Equations.

1. Solve $2 = -\dfrac{3}{2} + b$.   A. $\dfrac{8}{3}$ B. $\dfrac{4}{3}$ C. 3

2 Elementary algebra. Functions.

2. Let $f(x) = x^2$. Find $f(5)$.   A. 25   B. $f(25)$

3 Algebra. Functions. Composition.

3. Let $f(x) = -2 + \sqrt{x+3}$ and let $g(x) = \dfrac{1}{x}$. Find the composition $(f \circ g)(x)$.

   A. $\dfrac{1}{-2 + \sqrt{x+3}}$ C. $-2 + \dfrac{1}{\sqrt{x+3}}$ E. $-2 + \sqrt{\dfrac{1}{x} + 3}$

   B. $-2 + \sqrt{x+3}$ D. $-2 + \dfrac{1}{\sqrt{x+3}}$

4 Algebra. Functions. Domain.

4. Find the domain of $-2 + \sqrt{3 + 1/x}$.

   A. $(-\infty, 0) \cup (0, \infty)$ C. $[0, \infty)$ E. $(-\infty, 0) \cup (0, 1)$
   B. $(-\infty, \infty)$ D. $(1, \infty)$ F. $(-\infty, -\frac{1}{3}] \cup (0, \infty)$

5. Find the domain of $\dfrac{1}{-2 + \sqrt{3+x}}$.

   A. $[-3, 1) \cup (1, \infty)$ C. $(-\infty, \infty)$ E. $(-\infty, -3) \cup (-3, \infty)$
   B. $(-\infty, 0) \cup (0, \infty)$ D. $(-\infty, 1) \cup (1, \infty)$

5 Algebra. Trig. Right triangle apps.

6. The angle of elevation is $26°$. Which diagram is correctly labelled.

6 Calculus I. Limits. Algebraic.

7. Find $\lim\limits_{x \to 25} \dfrac{\sqrt{x} - 5}{x - 25}$.   A. $\dfrac{1}{10}$ B. $\dfrac{1}{50}$ C. $\dfrac{1}{60}$ D. $\dfrac{1}{5}$ E. 0   F. DNE   G. 0.10001

8. Find $\lim\limits_{h \to 0} \dfrac{0}{h}$.   A. 0   B. 1   C. ∞ D. DNE

7 Calculus Lab

9. Write $x^{1/(1-x)}$ using computer notation.   A. $x \wedge (1/(1-x))$ B. $(x \wedge 1)/(1-x)$ C. $x \wedge 1/(1-x)$