Palomar College Math Placement Test Study Guide
Beginning Algebra

Topic 8: Algebraic Fractions

1. Simplify: $\dfrac{x^2+10x+16}{x+2}$

2. Simplify: $\dfrac{x-5}{25-x^2}$

3. Add: $\dfrac{1}{x+3}+\dfrac{2}{x+1}$

4. Subtract: $\dfrac{1}{x^2-2x-10}-\dfrac{4}{x-5}$

5. Multiply: $\dfrac{2x^2y}{x^2-9}\cdot\dfrac{2x+6}{4xy^2}$

6. Divide: $\dfrac{2x-8}{x^2+2x-8}\div\dfrac{x^2-2x-8}{4-x^2}$

7. Solve: $\dfrac{-1}{x+4}=\dfrac{2}{x+4}+3$

8. Solve: $\dfrac{1}{2}-\dfrac{1}{x}=\dfrac{1}{3}$

9. Solve the proportion: $\dfrac{35}{126}=\dfrac{10}{x}$

10. Solve for x: $\dfrac{1}{x}=a+b$

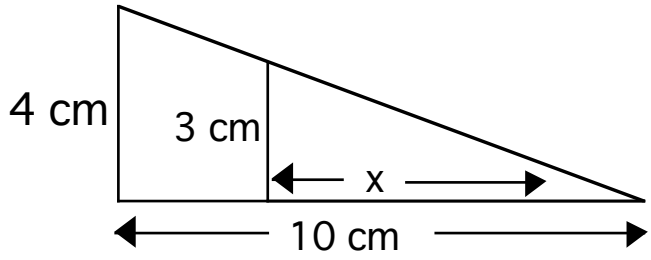
11. Solve for x: $y = ax + 3x$

12. Solve for T: PV = nRT

13. A medication is given at a rate of 12.3 grams for every 50 pounds of bodyweight. How much should be given to 135 pound person?

14. On a map, 1 inch represents 8 miles. If the distance between two locations on the map is 7.5 inches, what is the actual distance between the two locations?

15. Find x.



Answers:

1. $x + 8$
2. $-\frac{1}{x+5}$
3. $\frac{3x+7}{(x+1)(x+3)}$
4. $\frac{-4x-7}{(x-5)(x+2)}$
5. $\frac{x}{y(x-3)}$
6. $-\frac{2}{x+4}$
7. $x = -13/3$
8. $x = 6$
9. $x = 36$
10. $T = \frac{PV}{nR}$
11. $x = \frac{1}{a+b}$
12. $x = \frac{y}{a+3}$
13. A 150 pound person should be given 33.21 grams of medication.
14. The distance between the two locations is 60 miles.
15. $x = 7.5$ cm