

You have 20 minutes to complete these problems. No use of calculators allowed.

Choose the correct answer for each problem

1. $x^{\frac{1}{2}} x^{\frac{1}{6}}$

- a) $x^{\frac{1}{12}}$ b) $x^{\frac{1}{8}}$ c) $x^{\frac{2}{3}}$ d) $x^{\frac{1}{3}}$

2. If the sum of two numbers is 20 and one of those numbers is three times another, what is the smaller number?

- a) $\frac{20}{3}$ b) 15 c) 6 d) 5

3. If 4 pounds of apples cost M cents then 10 pounds of apples cost:

- a) 0.4M cents b) 2.5 M cents c) 4M cents d) 3M cents

4. $\frac{a}{b} + \frac{b}{a} =$

- a) $\frac{a+b}{ab}$ b) $\frac{a^2 - b^2}{b+a}$ c) $a^2 + b^2$ d) $\frac{a^2 + b^2}{ba}$

5. The inequality $4 - 3x > 10$ is equivalent to

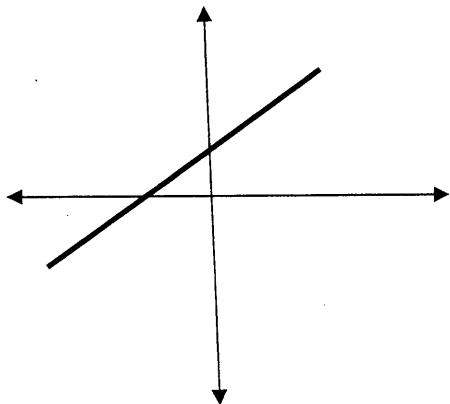
- a) $x > -2$ b) $x < \frac{14}{3}$ c) $x < -2$ d) $x > \frac{14}{3}$

6. $(5a-3)^2$

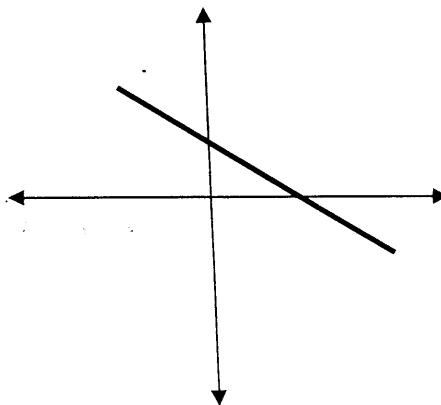
- a) $25a^2 - 9$ b) $25a^2 + 9$ c) $25a^2 - 15a + 9$ d) $25a^2 - 30a + 9$

7. Which of the following could be a portion of the graph $2x + 3y = 12$?

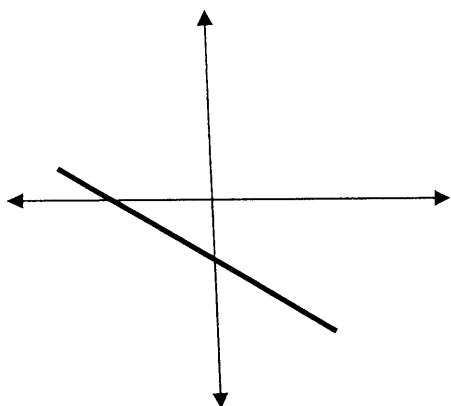
a)



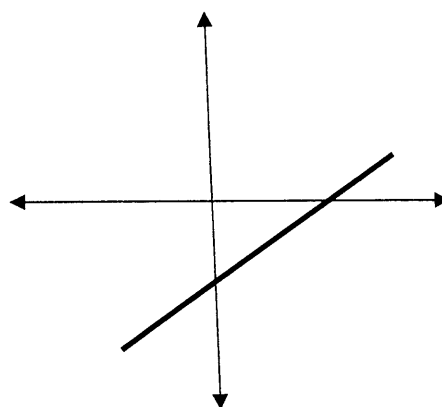
b)



c)



d)



8. 50 is what % of 40?

- a) 80% b) 120% c) 75% d) 125%

9. If $c = -2$, then $|2-c| - |-3c| = ?$

- a) -6 b) -2 c) 10 d) 6

10. The length of each side of a square with an area of 1600 sq. in. is lengthened by 20 in. What is the area of the new figure?

- a) 2000 sq. in. b) 3600 sq. in. c) 64,000 sq. in. d) 36,000 sq. in.