

Orientation Exercises 4

1. What is the product of (-7) and $(+8)$?

- A. -56 D. 1
 B. $-1\frac{1}{7}$ E. 56
 C. -1

2. What is $(-8)\left(-\frac{3}{7}\right)(-7)$?

- A. -24 D. $55\frac{4}{7}$
 B. $-2\frac{4}{7}$ E. None of the above
 C. 24

3. If $a = 4$ and $b = 6$, what is $\frac{3a+b}{2}$?

- A. 3 D. 11
 B. $6\frac{1}{2}$ E. 15
 C. 9

4. If $c = 7$ and $d = 8$, what is $c^2 - 2d$?

- A. -2 D. 48
 B. 6 E. 65
 C. 33

5. If $c = 3$ and $d = 7$, what is $20 - 2c + 4d$?

- A. 14 D. 42
 B. 18 E. 54
 C. 22

6. Written in algebraic form, "Four times a number n decreased by 7" is:

- A. $4n + 7$ D. $4n - 7$
 B. $7 - 4n$ E. $4 - 7n$
 C. $4 + 7n$

7. Simplify $\frac{3x^2 - 10x - 8}{x - 4}$, $x \neq 4$.

- A. $x - 4$ D. $3x - 2$
 B. $x - 2$ E. $3x + 2$
 C. $3x - 4$

$(x-4)(3x-2)$
 $\frac{\cancel{x-4}(3x-2)}{\cancel{x-4}}$

$$\frac{(3x-12)(3x-2)}{3}$$

$$= \frac{3(x-4)(3x-2)}{3}$$

$$= (x-4)(3x-2)$$

$M = -24$
 $A = -10$
 $N = -12, 2$

8. $\frac{6xy}{18y^3} = ?$ $\frac{1x}{3y^2}$

- A. $\frac{2xy}{6y^2}$ D. $\frac{xy}{3y^2}$
 B. $3xy^2$ E. $\frac{2x}{3y^2}$
 C. $\frac{x}{3y^2}$

9. Simplify $\frac{2-a}{a^2 - 10a + 16}$, $a \neq 2, a \neq 8$. $= \frac{-1}{a-8}$

- A. $a + 8$ D. $\frac{-1}{a-8}$
 B. $\frac{a-8}{-1}$ E. $11a + 8$
 C. $\frac{1}{a+8}$

10. A carpenter charges \$100 for an initial site visit to estimate a job, and \$60 per hour while actually working on the job. If he accepts the job, he refunds half of the site-visit fee. During a recent job, he collected \$590. How many hours did he work?

- A. 5 D. 8
 B. 6 E. 9
 C. 7

site visit
 $\frac{1}{2}(\$100) + 60x = 590$
 $50 + 60x = 590$
 $60x = 540$
 $x = 9$

11. If you purchase a home for \$250,000 and sell it two years later for \$350,000, the percent of increase is:

- A. 30%
 B. 35%
 C. 37.5%
 D. 40%
 E. 42.5%

$\% \text{ change} = \frac{|\text{net change}|}{\text{original \#}}$
 $= \frac{100,000}{250,000}$
 $= .4$