

Math 70
Exam 1 Answers

1. (a) $\frac{5}{12} + 1\frac{1}{9} = \boxed{\frac{55}{36} \text{ or } 1\frac{19}{36}}$

(b) $-\frac{13}{16} - \frac{11}{16} = -\frac{24}{16} = \boxed{-\frac{3}{2} \text{ or } -1\frac{1}{2}}$

(c) $\frac{3}{2} \cdot \frac{4}{15} = \boxed{\frac{2}{5}}$

(d) $\frac{-16}{\frac{6}{5}} = -16 \cdot \frac{5}{6} = \boxed{-\frac{40}{3} \text{ or } -13\frac{1}{3}}$

(e) $-8.46 - (-2.1) = -8.46 + 2.1 = \boxed{-6.36}$

(f) $(-\frac{1}{3})^3 = (-\frac{1}{3})(-\frac{1}{3})(-\frac{1}{3}) = \boxed{-\frac{1}{27}}$

(g) $-2 + (1 - 3)^4 + 4 \cdot 10 = -2 + (-2)^4 + 4 \cdot 10$
 $= -2 + 16 + 40$
 $= \boxed{54}$

2. $7361.5 \approx \boxed{7400}$

3. Discount = 40% of \$35 = 0.4(35)
= 14 dollars

Sale price = 35 - 14 = 21 dollars

The sale price is \$21.

4. Since $\frac{18}{40} = \frac{45}{100}$ or 0.45, $\boxed{45\%}$ of the kittens are male. (Simplify fractions or do long division to get a decimal.)

5. $\frac{11.2 \text{ cm}}{100 \text{ cm}} \times \frac{1 \text{ m}}{100 \text{ cm}} = \frac{11.2}{100} \text{ meters} = 0.112 \text{ meters}$

Sam's shell is 0.112 meters long.

6. $\frac{5.1 \text{ miles}}{1 \text{ miles}} \times \frac{1.6 \text{ km}}{1 \text{ miles}} = 5.1(1.6) \text{ km} = 8.16 \text{ km}$

My commute is 8.16 kilometers.

$$7. \text{ (a) } -\frac{2}{3}(24x - 6) = -\frac{2}{3}(24x) - \left(-\frac{2}{3}\right)(6)$$
$$= \boxed{-16x + 4}$$

$$\text{(b) } 4xy(1 - 3x + 11y) = 4xy(1) - 4xy(3x) + 4xy(11y)$$
$$= \boxed{4xy - 12x^2y + 44xy^2}$$

$$8. \text{ Flour needed} = \frac{9}{4} \cdot \frac{2}{3} = \frac{3}{2}$$

You will need $1\frac{1}{2}$ cups of flour.