

## FORM 2

### CHAPTER 2

#### Summative Practice

##### Section A

$$\begin{aligned} 1 \quad L &= \frac{1}{2}(2x+4)(3x-1) \\ &= (x+2)(3x-1) \\ &= 3x^2+6x-x-2 \\ &= 3x^2+5x-2 \end{aligned}$$

Answer: A

$$\begin{aligned} 2 \quad (a+2)(a-2)-(a+8) &= a^2-4-a-8 \\ &= a^2-a-12 \\ &= (a-4)(a+3) \end{aligned}$$

Answer: C

$$\begin{aligned} 3 \quad v^2-w^2 &= 30 \\ (v+w)(v-w) &= 30 \\ (v+w)(5) &= 30 \\ v+w &= \frac{30}{5} \\ &= 6 \end{aligned}$$

Answer: D

$$\begin{aligned} 4 \quad \frac{6+x}{x}-2 &= \frac{6+x-2x}{x} \\ &= \frac{6-x}{x} \end{aligned}$$

Answer: C

$$\begin{aligned} 5 \quad \frac{3}{y}-\frac{5-y}{y+1} &= \frac{3(y+1)-y(5-y)}{y(y+1)} \\ &= \frac{3y+3-5y+y^2}{y(y+1)} \\ &= \frac{y^2-2y+3}{y(y+1)} \end{aligned}$$

Answer: B

$$\begin{aligned} 6 \quad \frac{b+5}{b-5}-\frac{3}{5-b} &= \frac{b+5+3}{b-5} \\ &= \frac{b+8}{b-5} \end{aligned}$$

Answer: A

$$\begin{aligned} 7 \quad \text{Distance} &= (6x-18) \times \frac{1}{2}(x+3) \\ &= 3(x-3)(x+3) \\ &= 3x^2-27 \end{aligned}$$

Answer: D

$$\begin{aligned} 8 \quad (9-b^2) \times \frac{b}{4b-12} &= (3+b)(3-b) \times \frac{b}{4(b-3)} \\ &= -(b-3)(b+3) \times \frac{b}{4(b-3)} \\ &= -\frac{b(b+3)}{4} \\ &= -\frac{b^2+3b}{4} \end{aligned}$$

Answer: D

$$\begin{aligned} 9 \quad \frac{2h-k}{h^2} + \frac{4h^2-k^2}{hk} &= \frac{2h-k}{h^2} \times \frac{hk}{4h^2-k^2} \\ &= \frac{2h-k}{h^2} \times \frac{hk}{(2h+k)(2h-k)} \\ &= \frac{k}{h(2h+k)} \\ &= \frac{k}{2h^2+hk} \end{aligned}$$

Answer: A

$$\begin{aligned} 10 \quad \frac{(x+2y)^2}{2x-2y} \times \frac{4}{(x+2y)} + \frac{x}{x-y} \\ &= \frac{4(x+2y)}{2(x-y)} + \frac{x}{x-y} \\ &= \frac{2(x+2y)+x}{(x-y)} \\ &= \frac{2x+4y+x}{x-y} \\ &= \frac{3x+4y}{x-y} \end{aligned}$$

Answer: C

##### Section B

$$\begin{aligned} 1 \quad (a) \quad (i) \quad m(m-3) &= m^2-3m \\ (ii) \quad x(x-1)(x+1) &= x(x^2-1) \\ &= x^3-x \\ (b) \quad (i) \quad x(x+y)-2y(x+y) &= (x-2y)(x+y) \\ (ii) \quad x^2-xy-6y^2 &= (x^2+2xy)+(-3xy-6y^2) \\ &= x(x+2y)-3y(x+2y) \\ &= (x+2y)(x-3y) \end{aligned}$$

$$\begin{aligned} 2 \quad (a) \quad \frac{1}{2m}-\frac{1}{3m} &= \frac{3}{6m}-\frac{2}{6m} \\ &= \frac{1}{6m} \end{aligned}$$

$$(b) \quad \frac{2}{a} + \frac{3}{b} = \frac{2b}{ab} + \frac{3a}{ab} = \frac{2b+3a}{ab}$$

$$(c) \quad \frac{4}{x-y} + \frac{3}{y-x} = \frac{1}{x-y}$$

$$\begin{aligned} (d) \quad \frac{a+b}{2ab^3} \times \frac{a^3b}{3a+3b} &= \frac{(a+b)a^3b}{2ab^3(3a+3b)} \\ &= \frac{(a+b)a^2}{2b^2 \times 3(a+b)} \\ &= \frac{a^2}{6b^2} \end{aligned}$$

##### Section C

$$\begin{aligned} 1 \quad (a) \quad \frac{4e+12}{e^2-4} \div \frac{e+3}{e+2} &= \frac{4(e+3)}{(e-2)(e+2)} \times \frac{e+2}{e+3} \\ &= \frac{4}{e-2} \end{aligned}$$

$$\begin{aligned} (b) \quad \frac{5}{2a} - \frac{3-4b}{6a} &= \frac{15-(3-4b)}{6a} \\ &= \frac{15-3+4b}{6a} \\ &= \frac{12+4b}{6a} \\ &= \frac{2(6+2b)}{6a} \\ &= \frac{6+2b}{3a} \end{aligned}$$

$$\begin{aligned} (c) \quad \frac{30}{5x} - \frac{10}{3x+5} &= \frac{6}{x} - \frac{10}{3x+5} \\ &= \frac{6(3x+5)-10x}{x(3x+5)} \\ &= \frac{18x+30-10x}{x(3x+5)} \\ &= \frac{8x+30}{x(3x+5)} \end{aligned}$$