

DIRECTIONS: Simplify.

$$1. \frac{5}{16} - \frac{12}{16} + \frac{3}{16}$$

$$\underline{-\frac{1}{4}}$$

$$2. \frac{1}{2} - \frac{3}{7} + \frac{5}{14}$$

$$\underline{\frac{3}{7}}$$

$$3. \frac{5}{12} + \frac{5}{18} - \frac{5}{36}$$

$$\underline{\frac{5}{9}}$$

$$4. \frac{t+2}{3} + \frac{t-4}{6}$$

$$\underline{\frac{t}{2}}$$

$$5. \frac{z-1}{z} + \frac{z+1}{z^2}$$

$$\underline{\frac{z^2+1}{z^2}}$$

$$6. \frac{t-4}{2t} - \frac{t-6}{3t}$$

$$\underline{\frac{1}{6}}$$

$$7. \frac{1}{2pq^4} + \frac{2}{p^3q^2}$$

$$\underline{\frac{p^2+4q^2}{2p^3q^4}}$$

$$8. ab^{-1} - a^{-1}b$$

$$\underline{\frac{(a-b)(a+b)}{ab} \text{ or } \frac{a^2-b^2}{ab}}$$

$$9. \frac{a}{bc} + \frac{b}{ac} + \frac{c}{ab}$$

$$\underline{\frac{a^2+b^2+c^2}{abc}}$$

$$10. \frac{y-z}{yz} - \frac{z-x}{zx} - \frac{x-y}{xy}$$

$$\underline{\frac{2(y-z)}{yz}}$$

$$11. \frac{1}{z-4} - \frac{1}{z+4}$$

$$\underline{\frac{8}{(z-4)(z+4)}}$$

$$12. \frac{1}{t^2+t} + \frac{1}{t^2-t}$$

$$\underline{\frac{2}{(t+1)(t-1)}}$$

$$13. \frac{1}{x^2-1} - \frac{1}{(x-1)^2}$$

$$\underline{-\frac{2}{(x+1)(x-1)^2}}$$

$$14. \frac{1}{w^2+2w+1} - \frac{1}{w^2-1}$$

$$\underline{-\frac{2}{(w+1)^2(w-1)}}$$

$$15. \frac{a+b}{a-b} + \frac{a-b}{a+b} + \frac{b-a}{a-b} + \frac{b-a}{a+b}$$

$$\underline{\frac{2b}{a-b}}$$

$$16. (x-y)^{-1} - (x+y)^{-1}$$

$$\underline{\frac{2y}{(x-y)(x+y)}}$$

$$17. \frac{3}{x^2-5x+6} + \frac{2}{x^2-4}$$

$$\underline{\frac{5x}{(x+2)(x-2)(x-3)}}$$

$$18. \frac{1}{2u^2-3uv+v^2} + \frac{1}{4u^2-v^2}$$

$$\underline{\frac{3u}{(2u+v)(2u-v)(u-v)}}$$

$$19. \frac{x}{x-a} - \frac{x^2+a^2}{x^2-a^2} + \frac{a}{x+a}$$

$$\underline{\frac{2a}{x+a}}$$