

答:每台甲种手写板的价格为1 200 元,每台乙种手写板的价格为1 500 元.  
(2) $1\,500\times0.75=1\,125$ (元),  
 $1\,200$ 元 $>1\,125$ 元.  
所以购买乙种手写板越多,越省钱.  
设购买乙种手写板  $y$  台,则购买甲种手写板  $(50-y)$  台.

根据题意,得  $50-y\geq2y$ .

$$\text{解得 } y\leq \frac{50}{3}.$$

$\therefore y$  是整数,

$\therefore y$  最大为 16.

$\therefore$  一种最省钱的购买方案为:购买乙种手写板 16 台,购买甲种手写板 34 台.

$$\begin{aligned} 25.\text{解:}(1)\therefore \frac{A}{x}+\frac{B}{x+1}&=\frac{A(x+1)}{x(x+1)}+\frac{Bx}{x(x+1)} \\ &=\frac{(A+B)x+A}{x(x+1)}=\frac{1-x}{x(x+1)}, \\ \therefore A+B&=-1, A=1. \\ \therefore B&=-2. \end{aligned}$$

$$(2)\text{由}(1)\text{可得}\frac{1-x}{x(x+1)}=\frac{1}{x}+\frac{-2}{x+1}.$$

$$\text{同理可得}\frac{1-x}{(x+1)(x+2)}=\frac{2}{x+1}+\frac{-3}{x+2}.$$

$$\begin{aligned} \text{所以原方程可变形为}\frac{1}{x}+\frac{-2}{x+1}+\frac{2}{x+1}+ \\ \frac{-3}{x+2}=\frac{1}{x+2}. \end{aligned}$$

$$\therefore \frac{1}{x}=\frac{4}{x+2}.$$

$$\text{解得 } x=\frac{2}{3}.$$

经检验,  $x=\frac{2}{3}$  是原分式方程的解.

所以,原分式方程的解为  $x=\frac{2}{3}$ .

26.解:(1)设甲车间有  $x$  名工人参与生产,乙车间有  $y$  名工人参与生产.

$$\text{根据题意,得}\begin{cases} x+y=50, \\ 20(25x+30y)=27\,000. \end{cases}$$

$$\text{解得}\begin{cases} x=30, \\ y=20. \end{cases}$$

$\therefore$  甲车间有 30 名工人参与生产,乙车间有 20 名工人参与生产.

(2)①设方案二中乙车间需临时招聘  $m$  名工人.

$$\text{根据题意,得}\frac{27\,000}{30\times25\times(1+20\%)+20\times30}=\frac{27\,000}{30\times25+(20+m)\times30}.$$

解得  $m=5$ .

经检验,  $m=5$  是原方程的解,且符合题意.

$\therefore$  乙车间需临时招聘 5 名工人.

$$\text{②企业完成生产任务所需的时间为:}\frac{27\,000}{30\times25\times(1+20\%)+20\times30}=18(\text{天}).$$

$\therefore$  选择方案一需增加的费用为  $900\times18+1\,500=17\,700$ (元),

选择方案二需增加的费用为  $5\times18\times200=18\,000$ (元).

$\therefore 17\,700<18\,000$ .

$\therefore$  选择方案一能更节省开支.

第 18 期  
2~3 版

一、选择题  
1~5.BCDBD      6~10.ABABA  
二、填空题

$$11.x\neq-\frac{3}{2} \qquad 12.-2 \qquad 13.\frac{1}{4a},\frac{x+3}{x-3}$$

$$14.2\times10^{-8} \qquad 15.\frac{1}{x-y}$$

$$16.\frac{14\,400}{x}+\frac{30\,600-14\,400}{4.5x}=10\,000$$

$$17.-2 \qquad 18.0\text{或}-2$$

三、解答题

19.(1)原式=0;

(2)原式=- $b$ ;

(3)原式=1;

$$(4)\text{原式}=\frac{a^2c^6}{4b^7}.$$

$$20.(1)x=0;(2)x=-3.$$

21.解:设走路线 A 的平均速度为  $x$  km/h.

$$\text{根据题意,得}\frac{25}{x}-\frac{30}{(1+50\%)x}=\frac{6}{60}.$$

解得  $x=50$ .

经检验,  $x=50$  是原方程的解,且符合题意.

$$\therefore (1+50\%)x=75.$$

答:走路线 B 的平均速度为 75 km/h.

$$\begin{aligned} 22.\text{解:}\frac{x+1}{x^2-4}\cdot\left(\frac{1}{x+1}+1\right) \\ &=\frac{x+1}{(x+2)(x-2)}\cdot\frac{1+x+1}{x+1} \\ &=\frac{x+2}{(x+2)(x-2)} \\ &=\frac{1}{x-2}. \end{aligned}$$

$$\text{解不等式组}\begin{cases} x+1\geq0, \\ 5-2x>3 \end{cases},\text{得}-1\leq x<1.$$

$$\therefore x\text{ 是不等式组}\begin{cases} x+1\geq0, \\ 5-2x>3 \end{cases}\text{的整数解,}$$

$$\therefore x=-1\text{ 或 }x=0.$$

$\therefore$  当  $x=-1$  时,原分式无意义,

$$\therefore x=0.$$

$$\text{当 }x=0\text{ 时,原式}=\frac{1}{0-2}=-\frac{1}{2}.$$

23.解:任务一:①三,分式的基本性质,分式的分子分母都乘(或除以)同一个不为 0 的整式,分式的值不变;

②五;括号前面是“-”,去掉括号后,括号里面的第二项没有变号.

$$\begin{aligned} \text{任务二:}\frac{x^2-9}{x^2+6x+9}-\frac{2x+1}{2x+6} \\ &=\frac{(x+3)(x-3)}{(x+3)^2}-\frac{2x+1}{2(x+3)}\cdots\text{第一步} \\ &=\frac{x-3}{x+3}-\frac{2x+1}{2(x+3)}\cdots\text{第二步} \\ &=\frac{2(x-3)}{2(x+3)}-\frac{2x+1}{2(x+3)}\cdots\text{第三步} \\ &=\frac{2x-6-(2x+1)}{2(x+3)}\cdots\text{第四步} \\ &=\frac{2x-6-2x-1}{2(x+3)}\cdots\text{第五步} \\ &=-\frac{7}{2x+6}\cdots\text{第六步} \end{aligned}$$

任务三:答案不唯一,如:分式的混合运算,一般按常规运算顺序,但有时应先根据题目的特点,运用乘法的运算律运算,会简化运算过程.

24.解:(1)设甲公司有  $x$  人,则乙公司有  $(x+30)$  人.

$$\text{根据题意,得}\frac{100\,000}{x}\times\frac{7}{6}=\frac{140\,000}{x+30}.$$

解得  $x=150$ .

经检验,  $x=150$  是原方程的解,且符合题意.

$$\therefore x+30=180.$$

答:甲公司有 150 人,乙公司有 180 人.

(2)设购买 A 种防疫物资  $m$  箱,购买 B 种防疫物资  $n$  箱.

$$\begin{aligned} \text{根据题意,得 } 15\,000m+12\,000n&=100\,000+ \\ 140\,000. \end{aligned}$$

$$\therefore m=16-\frac{4}{5}n.$$

又  $\therefore n\geq10$ ,且  $m,n$  均为正整数,

$$\therefore \begin{cases} m=8, & \text{或 } m=4, \\ n=10, & \text{或 } n=15. \end{cases}$$

$\therefore$  有两种购买方案,方案 1:购买 8 箱 A 种防疫物资,10 箱 B 种防疫物资;方案 2:购买 4 箱 A 种防疫物资,15 箱 B 种防疫物资.

$$25.\text{解:}(1)\frac{15}{3+2x}.$$

$$(2)\text{证明:由题意,得 }xy=1.\text{则 }y=\frac{1}{x}.$$

$$\begin{aligned} \text{把 }y=\frac{1}{x}\text{ 代入 }\frac{2x}{x+y^2}+\frac{2y}{y+x^2},\text{ 得} \\ \text{原式}=\frac{2x}{x+\frac{1}{x^2}}+\frac{\frac{2}{x}}{\frac{1}{x}+x^2}=\frac{2x^3}{x^3+1}+\frac{2}{x^3+1}=2. \end{aligned}$$

$$\therefore \frac{2x}{x+y^2}\text{ 与 }\frac{2y}{y+x^2}\text{ 互为“2 阶分式”}.$$

$$(3)\therefore \frac{a}{a+4b^2}\text{ 与 }\frac{2b}{a^2+2b}\text{ 互为“1 阶分式”,}$$

$$\begin{aligned} \therefore \frac{a}{a+4b^2}+\frac{2b}{a^2+2b}=1. \\ \therefore \frac{a^3+2ab}{(a+4b^2)(a^2+2b)}+\frac{2ab+8b^3}{(a+4b^2)(a^2+2b)}=1. \end{aligned}$$

$$\begin{aligned} \therefore \frac{a^3+2ab+2ab+8b^3}{a^2+2ab+4a^2b^2+8b^3}=1, \\ \text{即 }2ab=4a^2b^2. \end{aligned}$$

又  $\therefore a,b$  为正数,

$$\therefore ab=\frac{1}{2}.$$

$$\therefore ab\text{ 的值为 }\frac{1}{2}.$$

26.解:(1)-1.

$$(2)\text{证明:由 }y=3-\frac{9}{x},\text{得}\frac{9}{x}=3-y,x=\frac{9}{3-y}.$$

$$\therefore 3-\frac{9}{z}=\frac{9}{3-y},$$

$$\text{即 }3-\frac{9}{3-y}=\frac{9}{z}=\frac{3(3-y)-9}{3-y}=\frac{-3y}{3-y}.$$

$$\therefore z=\frac{9(3-y)}{-3y}=\frac{9(y-3)}{3y}=\frac{9y-27}{3y}.$$

$$\therefore z=3-\frac{9}{y}.$$

$$(3)\text{由 }a+\frac{2}{b}=t,\text{得 }ab+2=bt\text{①}.$$

$$\text{由 }b+\frac{2}{c}=t,\text{得 }b^2t=b+\frac{2}{c}\text{②}.$$

$$\text{把②代入①,得 }ab+2=t\left(t-\frac{2}{c}\right)=t^2-\frac{2t}{c}.$$

$$\therefore abc+2c=ct^2-2t,$$

$$\text{即 }abc+2t=c(t^2-2).$$

$$\begin{aligned} \text{同理,得 }abc+2t&=a(t^2-2),abc+2t= \\ b(t^2-2). \end{aligned}$$

$$\therefore a(t^2-2)=b(t^2-2)=c(t^2-2).$$

$$\therefore a,b,c\text{ 互不相等},\therefore t^2-2=0.$$

$$\therefore t=\pm\sqrt{2}.$$

2020~2021 学年

## 数学·人教八年级答案页第 4 期

第 13 期  
2 版  
14.3 因式分解  
第 1 课时

$$\begin{aligned} 1.C \quad 2.5 \quad 3.A \\ 4.4 \\ 5.\text{解:}(1)\text{原式}=5a^2(3a+2). \\ (2)\text{原式}=8x(3m^2-2n^2). \\ (3)\text{原式}=3(a-b)[2(a-b)+1]=3(a-b)(2a-2b+1). \\ 6.\text{解:根据题意,可得 }a+b=5,ab=6. \\ \therefore a^2b^2+a^2b^2=a^2b^2(a+b)=(ab)^2(a+b)=36\times5=180. \end{aligned}$$

$$\begin{aligned} \text{第 2 课时} \\ 1.C \quad 2.(9+4m)(9-4m) \\ 3.\text{答案不唯一,如}-1 \\ 4.\text{解:}(1)\text{原式}=(4x+3y)(4x-3y). \\ (2)\text{原式}=(x-2+2)(x-2-2)=x(x-4). \\ (3)\text{原式}=x^2(a-2b)-y^2(a-2b) \\ =(a-2b)(x^2-y^2) \\ =(a-2b)(x+y)(x-y). \\ 5.12 \end{aligned}$$

$$\begin{aligned} \text{第 3 课时} \\ 1.A \\ 2.\text{解:}(1)\text{原式}=x^2-4xy+4y^2=(x-2y)^2. \\ (2)\text{原式}=-(-4y^2-4y+1)=-(-2y-1)^2. \\ (3)\text{原式}=2x(m^2-6m+9)=2x(m-3)^2. \\ 3.12 \end{aligned}$$

$$\begin{aligned} 3\sim4\text{ 版} \\ \text{一、选择题} \\ 1\sim5.DBDBA \\ 6\sim10.DCADD \\ \text{二、填空题} \\ 11.(n-2m)(n+2m) \quad 12.-3 \\ 13.7\text{ 或 }-9 \qquad 14.3x+5y \\ 15.0 \qquad 16.48 \\ 17.2 \qquad 18.155763 \\ \text{三、解答题} \end{aligned}$$

$$\begin{aligned} 19.\text{解:}(1)\text{原式}=3xy(2-3x). \\ (2)\text{原式}=x(x+5)(x-5). \\ (3)\text{原式}=(a-b)(3x+2y)(3x-2y). \\ (4)\text{原式}=3(3x+1)^2. \\ 20.\text{解:}(1)\text{原式}=2.39\times(91+156-47) \\ =2.39\times200 \\ =478. \\ (2)\text{原式}=2\,020^2-(2\,020+2)(2\,020-2) \\ =2\,020^2-(2\,020^2-2^2) \\ =2^2=4. \\ 21.\text{解:原式}=3[(x+3y)^2-4(2x-y)^2] \\ =3[(x+3y)+2(2x-y)][(x+3y)-2(2x-y)] \\ =3(5x+y)(5y-3x). \\ \therefore 5x+y=2,5y-3x=3, \\ \therefore \text{原式}=3\times2\times3=18. \end{aligned}$$

$$\begin{aligned} 22.\text{解:}a^2-2ab-3b^2 \\ =a^2-2ab+b^2-4b^2 \\ =(a-b)^2-4b^2 \\ =(a-b+2b)(a-b-2b) \\ =(a+b)(a-3b). \\ 23.\text{解:}(1)\therefore a-b=1,a-c=3, \\ \therefore b-c=3-1=2. \\ \therefore 5b-5c+7=5(b-c)+7=17. \\ (2)a^2+b^2+c^2-ab-ac-bc \\ =\frac{1}{2}\times(a^2+b^2+c^2+a^2+b^2+c^2-2ab-2ac-2bc) \\ =\frac{1}{2}[(a-b)^2+(a-c)^2+(b-c)^2]. \\ \therefore a-b=1,a-c=3,b-c=2, \end{aligned}$$

$$\therefore a^2+b^2+c^2-ab-ac-bc=\frac{1}{2}\times(1+9+4)=7.$$

$$\begin{aligned} 24.\text{解:}(1)\text{是}. \\ (2)\therefore x>y+1,\therefore x+2>y+3. \\ N=x^2-y^2+4x-6y+k=(x^2+4x+4)-(y^2+6y+9)+k+5 \\ =(x+2)^2-(y+3)^2+k+5. \\ \therefore N\text{ 是“明礼崇德数”,} \\ \therefore k+5=0. \\ \therefore k=-5. \\ 25.\text{解:}(1)-3,1. \\ (2)\text{由 }x^2+2y^2-2xy+8y+16=0,\text{得}(x-y)^2+(y+4)^2=0. \end{aligned}$$

$$\begin{aligned} \therefore x-y=0,y+4=0. \\ \therefore x=y=-4. \\ \therefore xy=16. \\ (3)\text{由 }2a^2+b^2-4a-8b+18=0,\text{得 }2(a-1)^2+(b-4)^2=0. \\ \therefore a-1=0,b-4=0. \\ \therefore a=1,b=4. \\ \therefore 3<c<5. \\ \therefore \triangle ABC\text{ 的三边长 }a,b,c\text{ 都是正整数,由三角形的三边关系知 }c=4, \\ \therefore \triangle ABC\text{ 的周长为 }9. \\ 26.\text{解:}(1)\text{由图可知,} \\ 2a^2+5ab+2b^2=(2a+b)(a+2b). \\ (2)\text{①}\therefore \text{每块小长方形的面积为 }10,\text{四个正方形的面积和为 }58, \\ \therefore ab=10,2a^2+2b^2=58. \\ \therefore 2(a+b)^2-4ab=58. \\ \therefore (a+b)^2=29+2ab. \\ \therefore (a+b)^2=29+2\times10. \\ \therefore (a+b)^2=49. \\ \therefore a+b=7\text{ 或 }a+b=-7. \\ \therefore a,b\text{ 均为正数,} \\ \therefore a+b=7. \\ \text{②}a^2b+ab^2 \\ =ab(a+b) \\ =10\times7 \\ =70. \end{aligned}$$

$$\begin{aligned} \text{第 14 期} \\ 2\sim3\text{ 版} \\ \text{一、选择题} \\ 1\sim5.BCDDA \quad 6\sim10.DACDB \\ \text{二、填空题} \\ 11.5m^3n \qquad 12.4a^2-b^2 \\ 13.x=\frac{1}{4} \qquad 14.x^2+3y^2 \\ 15.\frac{a-1}{a+1} \qquad 16.13 \\ 17.7-i \qquad 18.-3 \\ \text{三、解答题} \end{aligned}$$

$$\begin{aligned} 19.\text{解:}(1)\text{原式}=a^3b^2. \\ (2)\text{原式}=2y^2+2xy. \\ (3)\text{原式}=3a^2-7ab+6ab-14b^2=3a^2-ab-14b^2. \\ (4)\text{原式}=16x^3y^2z+8x^3y^2z+8x^3y^2z+8x^3y^2=2yz+xz. \\ 20.\text{解:}(1)\text{原式}=2(x^2-2x+1)=2(x-1)^2. \\ (2)\text{原式}=a^2(x-y)-9b^2(x-y) \\ =(x-y)(a^2-9b^2) \\ =(x-y)(a+3b)(a-3b). \\ 21.\text{解:}a^2+bc-ac-b^2=(a^2-b^2)+(bc-ac)=(a+b)(a-b)+c(b-a)=(a-b)(a+b-c)=0. \\ \therefore a,b,c\text{ 为 }\triangle ABC\text{ 的三边,} \\ \therefore a+b-c>0. \\ \therefore a-b=0,\text{即 }a=b. \\ \therefore \triangle ABC\text{ 的形状是等腰三角形.} \\ 22.\text{解:}[(x+2y)^2-(x+xy)(3x-y)-5y^2]\div2x \\ =(x^2+4xy+4y^2-3x^2+xy-3xy+y^2-5y^2)\div2x \\ =(-2x^2+2xy)\div2x \end{aligned}$$

## 学习周报® ④

$$\begin{aligned} &=-x+y. \\ \therefore x^2+y^2+4x-6y+13&=0, \\ \therefore (x^2+4x+4)+(y^2-6y+9)&=0. \\ \therefore (x+2)^2+(y-3)^2&=0. \\ \therefore x+2=0,y-3=0. \\ \therefore x=-2,y=3. \\ \text{当 }x=-2,y=3\text{ 时,原式}&=-(-2)+3=2+3=5. \\ 23.\text{解:}(1)(a+b)^5&=a^5+5a^4b+10a^3b^2+5ab^4+b^5. \\ (2)2^5-5\times2^4+10\times2^3-10\times2^2+5\times2-1 \\ &=2^5+5\times2^4\times(-1)+10\times2^3\times(-1)^2+10\times2^2\times(-1)^3+5\times2\times(-1)^4+(-1)^5 \\ &=(2-1)^5 \\ &=1. \\ 24.\text{解:}(1)\text{由题意,得} \\ S_1&=(x+5)(y+5)=xy+5(x+y)+25, \\ S_2&=(x-2)(y-2)=xy-2(x+y)+4. \\ \therefore S_1-S_2&=xy+5(x+y)+25-xy-2(x+y)-4=7(x+y)+21=7(x+y+3). \end{aligned}$$

$$\begin{aligned} \therefore x,y\text{ 为正整数,} \\ \therefore S_1\text{ 与 }S_2\text{ 的差一定是 }7\text{ 的倍数.} \\ (2)\text{由题意,得 }S_1-S_2=196,\text{即 }7(x+y+3)&=196. \\ \therefore x+y+3&=28. \\ \therefore x+y&=25. \\ \therefore 2(x+y)&=50. \\ \therefore \text{原长方形的周长为 }50\text{ cm.} \\ 25.\text{解:}(1)(a+b+c)^2&=a^2+b^2+c^2+2ab+2ac+2bc. \end{aligned}$$

$$\begin{aligned} (2)\text{①}\therefore (a+b+c)^2&=a^2+b^2+c^2+2ab+2ac+2bc,a+b+c=11,ab+bc+ac=38, \\ \therefore a^2+b^2+c^2 \\ &=(a+b+c)^2-(2ab+2ac+2bc) \\ &=11^2-2\times38 \\ &=45. \\ \text{②}\therefore 2^2\times4\times8^2&=16, \\ \therefore 2^2\times2^{2^3}\times2^{2^3}&=16. \\ \therefore 2^{2^2\times2^3\times2^3}&=2^4. \\ \therefore x+2y+3z&=4. \\ \therefore (x+2y+3z)^2&=x^2+4y^2+9z^2+2(2xy+3xz+6yz), \\ x^2+4y^2+9z^2&=40. \end{aligned}$$

$$\begin{aligned} \therefore 4^2&=40+2(2xy+3xz+6yz). \\ \therefore 2xy+3xz+6yz&=-12. \\ 26.\text{解:}(1)\text{由题意,得} \\ \text{方法一:}S_1&=b(a+b)=ab+b^2. \end{aligned}$$

$$\begin{aligned} \text{方法二:}S_2&=\frac{1}{2}ab+\frac{1}{2}ab+\frac{1}{2}(b-a)(b+a)+\frac{1}{2}c^2 \\ &=ab+\frac{1}{2}b^2-\frac{1}{2}a^2+\frac{1}{2}c^2. \\ \therefore S_1&=S_2, \end{aligned}$$

$$\begin{aligned} \therefore ab+b^2&=ab+\frac{1}{2}b^2-\frac{1}{2}a^2+\frac{1}{2}c^2. \\ \therefore a^2+b^2&=c^2. \\ (2)\text{①}\therefore a^2+b^2&=c^2,\text{且 }c=10,a=6, \\ \therefore b&=8. \\ \therefore S&=6\times8+64=112. \\ \therefore S\text{ 的值为 }112. \\ \text{②}\therefore a^2+b^2&=c^2, \\ \therefore a^2=c^2-b^2&=(c+b)(c-b). \\ \text{又 } \therefore c-b&=1,a=5, \\ \therefore c+b&=25. \\ \therefore b&=12. \\ \therefore S&=ab+b^2=12\times5+12^2=204. \\ \therefore S\text{ 的值为 }204. \end{aligned}$$

$$\begin{aligned} \text{第 15 期} \\ 2\text{ 版} \\ 15.1.1\text{ 从分数到分式} \\ 1.C \quad 2.C \end{aligned}$$

3.(1) $x \neq -\frac{2}{3}$ ; (2) $x \neq \pm 2$ ; (3) $x \neq 7$ ;

(4) $b \neq 2a$ .

15.1.2 分式的基本性质

1.B 2.  $\frac{5y}{x^2}$  3.2(m-n)

4.解:(1)原式= $\frac{6xy \cdot 2}{6xy \cdot 3x^2y} = \frac{2}{3x^2y}$ .

(2)原式= $\frac{2(m-4)}{(m+4)(m-4)} = \frac{2}{m+4}$ .

5.解:(1)最简公分母是 $21a^2b^2$ .

$$\frac{1}{3ab^2} = \frac{7a}{3ab^2 \cdot 7a} = \frac{7a}{21a^2b^2}, \frac{2}{7a^2b} = \frac{2 \cdot 3b}{7a^2b \cdot 3b} = \frac{2 \cdot 3b}{21a^2b^2}.$$

(2)最简公分母是 $x(x-1)(x+1)$ .

$$\frac{x-1}{x^2-x} = \frac{(x-1)(x+1)}{x(x-1)(x+1)} = \frac{x^2-1}{x(x-1)(x+1)}, \frac{x-1}{x^2+x} = \frac{(x-1)(x-1)}{x(x+1)(x-1)} = \frac{(x-1)^2}{x(x+1)(x-1)}.$$

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

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

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

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20.解:(1)最简公分母是 $abc$ .

$$\frac{x}{ac} = \frac{xb}{abc}, \frac{y}{bc} = \frac{ya}{abc}.$$

(2)最简公分母是 $2(x+3)(x-3)$ .

$$\frac{2x}{x^2-9} = \frac{4x}{2(x+3)(x-3)},$$

$$\frac{x}{2x+6} = \frac{x(x-3)}{2(x+3)(x-3)},$$

$$= \frac{x^2-3x}{2(x+3)(x-3)}.$$

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第 16 期

2 版

15.2.2 分式的加减

第 1 课时

1.A 2.  $\frac{19}{3}$

3. 解:(1)原式= $\frac{x-2}{(x+2)(x-2)} = \frac{x-2}{(x+2)(x-2)}$ .

(2)原式= $\frac{2x}{(x+2)(x-2)} = \frac{x-2-2x}{(x+2)(x-2)} = -\frac{1}{x-2}$ .

(2)原式= $\frac{(x+3)(x-2)}{x-2} = \frac{x^2}{x-2} = \frac{x^2+x-6-x^2}{x-2}$ .

4.解:设小丽走第一条路所用时间为 $t_1$ 小时,走第二条路所用时间为 $t_2$ 小时.

(1)小丽走第二条路的时间为: $t_2 = \frac{3}{v} + \frac{3}{3v} = \frac{4}{v}$ (小时).

故当走第二条路时,她从甲地到乙地需要 $\frac{4}{v}$ 小时.

(2)小丽走第一条路的时间为: $t_1 = \frac{6}{2v} = \frac{3}{v}$ (小时).

所以小丽走第一条路花费的时间少,少 $\frac{1}{v}$ 小时.

5.  $\frac{3}{4}$

第 2 课时

1.B 2.  $\frac{3}{4}$

3.(1)原式= $x^2-4x+3$ ;

(2)原式= $\frac{3x^2+8}{2y}$ .

4.解:原式= $\frac{6}{(a+3)^2} \cdot \frac{a+3}{a} + \frac{2(a-3)}{(a+3)(a-3)}$ .

= $\frac{6}{a(a+3)} + \frac{2}{a+3}$ .

= $\frac{6+2a}{a(a+3)}$ .

= $\frac{2(a+3)}{a(a+3)}$ .

= $\frac{2}{a}$ .

当 $a=2$ 时,原式=1.

15.2.3 整数指数幂

第 1 课时

1.D 2.-2

3.(1)原式=-17;(2)原式=- $\frac{1}{2}ab$ .

4.A

第 2 课时

1.C 2.1.2×10<sup>-7</sup> 3.0.000 031 8

4.(1)9×10<sup>-4</sup>;(2)1.2×10<sup>-2</sup>.

3~4 版

一、选择题

1~5.DADAB 6~10.BACDB

二、填空题

11.2 12.- $\frac{1}{a+1}$

13.2.1×10<sup>-5</sup> 14.- $\frac{2}{m^2-1}$

15.8 16. $\frac{2400}{m(m+10)}$

17.> 18. $\frac{1}{x-1}$

三、解答题

19.(1)1.3×10<sup>-6</sup>;

(2)- $\frac{2b^5}{a^3}$ .

20.(1)原式=2a-4;(2)原式=- $\frac{x-2}{x+2}$ .

21.解:( $\frac{3}{a+1} - a+1$ )÷ $\frac{a^2-4}{a^2+2a+1}$

= $\frac{3-(a-1)(a+1)}{a+1} \cdot \frac{(a+$