

7. EVA Mathe - Klasse 7c: Lösungen zum Aufgabenblatt für den 10.11.2004

1.	a)	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px; text-align: center;">$-13\frac{3}{4}$</td><td style="padding: 5px; text-align: center;">$+22\frac{2}{5}$</td><td style="padding: 5px; text-align: center;">$-27\frac{3}{8}$</td><td style="padding: 5px; text-align: center;">$+5\frac{3}{5}$</td></tr> <tr> <td style="padding: 5px; text-align: center;">$8\frac{13}{20}$</td><td style="padding: 5px; text-align: center;">$-4\frac{39}{40}$</td><td style="padding: 5px; text-align: center;">$-21\frac{31}{40}$</td><td></td></tr> <tr> <td colspan="2" style="padding: 5px; text-align: center;">$3\frac{27}{40}$</td><td style="padding: 5px; text-align: center;">$-26\frac{3}{4}$</td><td></td></tr> <tr> <td colspan="3" style="padding: 5px; text-align: center;">$-23\frac{3}{40}$</td><td></td></tr> </table>	$-13\frac{3}{4}$	$+22\frac{2}{5}$	$-27\frac{3}{8}$	$+5\frac{3}{5}$	$8\frac{13}{20}$	$-4\frac{39}{40}$	$-21\frac{31}{40}$		$3\frac{27}{40}$		$-26\frac{3}{4}$		$-23\frac{3}{40}$			
$-13\frac{3}{4}$	$+22\frac{2}{5}$	$-27\frac{3}{8}$	$+5\frac{3}{5}$															
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$$(-13\frac{3}{4}) + (+22\frac{2}{5}) = +(22\frac{2}{5} - 13\frac{3}{4}) = 22\frac{8}{20} - 13\frac{15}{20} = 21\frac{28}{20} - 13\frac{15}{20} = 8\frac{13}{20}$$

$$(+22\frac{2}{5}) + (-27\frac{3}{8}) = -(27\frac{3}{8} - 22\frac{2}{5}) = -(27\frac{15}{40} - 22\frac{16}{40}) = -(26\frac{55}{40} - 22\frac{16}{40}) = -4\frac{39}{40}$$

$$(-27\frac{3}{8}) + (+5\frac{3}{5}) = -(27\frac{3}{8} - 5\frac{3}{5}) = -(27\frac{15}{40} - 5\frac{24}{40}) = -(26\frac{55}{40} - 5\frac{24}{40}) = -21\frac{31}{40}$$

$$(+8\frac{13}{20}) + (-4\frac{39}{40}) = +(8\frac{13}{20} - 4\frac{39}{40}) = 8\frac{26}{40} - 4\frac{39}{40} = 7\frac{66}{40} - 4\frac{39}{40} = 3\frac{27}{40}$$

$$(-4\frac{39}{40}) + (-21\frac{31}{40}) = -(4\frac{39}{40} + 21\frac{31}{40}) = -25\frac{70}{40} = -26\frac{3}{4}$$

$$(3\frac{27}{40}) + (-26\frac{3}{4}) = -(26\frac{3}{4} - 3\frac{27}{40}) = -(26\frac{30}{40} - 3\frac{27}{40}) = -23\frac{3}{40}$$

b)	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px; text-align: center;">$+13\frac{3}{4}$</td><td style="padding: 5px; text-align: center;">$-22\frac{2}{5}$</td><td style="padding: 5px; text-align: center;">$-27\frac{3}{8}$</td><td style="padding: 5px; text-align: center;">$+5\frac{3}{5}$</td></tr> <tr> <td style="padding: 5px; text-align: center;">$36\frac{3}{20}$</td><td style="padding: 5px; text-align: center;">$4\frac{39}{40}$</td><td style="padding: 5px; text-align: center;">$-32\frac{39}{40}$</td><td></td></tr> <tr> <td colspan="2" style="padding: 5px; text-align: center;">$31\frac{7}{40}$</td><td style="padding: 5px; text-align: center;">$37\frac{38}{40}$</td><td></td></tr> <tr> <td colspan="3" style="padding: 5px; text-align: center;">$-6\frac{31}{40}$</td><td></td></tr> </table>	$+13\frac{3}{4}$	$-22\frac{2}{5}$	$-27\frac{3}{8}$	$+5\frac{3}{5}$	$36\frac{3}{20}$	$4\frac{39}{40}$	$-32\frac{39}{40}$		$31\frac{7}{40}$		$37\frac{38}{40}$		$-6\frac{31}{40}$			
$+13\frac{3}{4}$	$-22\frac{2}{5}$	$-27\frac{3}{8}$	$+5\frac{3}{5}$														
$36\frac{3}{20}$	$4\frac{39}{40}$	$-32\frac{39}{40}$															
$31\frac{7}{40}$		$37\frac{38}{40}$															
$-6\frac{31}{40}$																	

$$(+13\frac{3}{4}) - (-22\frac{2}{5}) = 13\frac{3}{4} + 22\frac{2}{5} = 13\frac{15}{20} + 22\frac{8}{20} = 35\frac{23}{20} = 36\frac{3}{20}$$

$$(-22\frac{2}{5}) - (-27\frac{3}{8}) = (-22\frac{2}{5}) + (+27\frac{3}{8}) = +(27\frac{3}{8} - 22\frac{2}{5}) = 26\frac{55}{40} - 22\frac{16}{40} = 4\frac{39}{40}$$

$$(-27\frac{3}{8}) - (+5\frac{3}{5}) = (-27\frac{3}{8}) + (-5\frac{3}{5}) = -(27\frac{3}{8} + 5\frac{3}{5}) = -(27\frac{15}{40} + 5\frac{24}{40}) = -32\frac{39}{40}$$

$$(+36\frac{3}{20}) - (+4\frac{39}{40}) = (+36\frac{3}{20}) + (-4\frac{39}{40}) = +(36\frac{3}{20} - 4\frac{39}{40}) = 35\frac{46}{40} - 4\frac{39}{40} = 31\frac{7}{40}$$

$$(+4\frac{39}{40}) - (-32\frac{39}{40}) = (+4\frac{39}{40}) + (+32\frac{39}{40}) = +36\frac{78}{40} = 37\frac{38}{40}$$

$$(+31\frac{7}{40}) - (+37\frac{38}{40}) = (+31\frac{7}{40}) + (-37\frac{38}{40}) = -(37\frac{38}{40} - 31\frac{7}{40}) = -6\frac{31}{40}$$

$$2. \quad \text{a)} \quad = 50 + 18 - 37 - 62 + 25 - 11 + 33 = 68 - 37 - 62 + 25 - 11 + 33 \\ = 31 - 62 + 25 - 11 + 33 = -31 + 25 - 11 + 33 = -6 - 11 + 33 = -17 + 33 = 16$$

$$\text{b)} \quad = -2616 + 1539 - 407 + 2066 + 1195 - 713 - 993 + 15 \\ = -1077 - 407 + 2066 + 1195 - 713 - 993 + 15 \\ = -1484 + 2066 + 1195 - 713 - 993 + 15 = 582 + 1195 - 713 - 993 + 15 \\ = 1777 - 713 - 993 + 15 = 1064 - 993 + 15 = 71 + 15 = 86$$

$$\text{c)} \quad = 17,4 - 48,2 + 65,6 + 11,5 - 23,9 - 78,4 \\ = -30,8 + 65,6 + 11,5 - 23,9 - 78,4 = 34,8 + 11,5 - 23,9 - 78,4 \\ = 46,3 - 23,9 - 78,4 = 22,4 - 78,4 = -56$$

$$\text{d)} \quad = -0,53 + 6,48 + 1,07 - 19,36 + 5,22 - 4,39 + 1,51 \\ = 5,95 + 1,07 - 19,36 + 5,22 - 4,39 + 1,51 \\ = 7,02 - 19,36 + 5,22 - 4,39 + 1,51 = -12,34 + 5,22 - 4,39 + 1,51 \\ = -7,12 - 4,39 + 1,51 = -11,51 + 1,51 = -10$$

$$\text{e)} \quad -\frac{1}{2} + \frac{3}{5} + \frac{1}{4} + \frac{4}{15} - \frac{3}{8} = -\frac{60}{120} + \frac{72}{120} + \frac{30}{120} + \frac{32}{120} - \frac{45}{120} = \frac{-60+72+30+32-45}{120} = \frac{29}{120}$$

$$\text{f)} \quad 12\frac{1}{3} - 6\frac{2}{5} - 8\frac{1}{6} + 4\frac{1}{10} + 2\frac{2}{3} - 16\frac{5}{6} - 5\frac{3}{10} \\ = 12\frac{10}{30} + 4\frac{3}{30} + 2\frac{20}{30} - 6\frac{12}{30} - 8\frac{5}{30} - 16\frac{25}{30} - 5\frac{9}{30} = 18\frac{33}{30} - 35\frac{51}{30} = -17\frac{18}{30} = -17\frac{3}{5}$$

$$\text{g)} \quad 18\frac{3}{4} - 36\frac{1}{5} + 27\frac{1}{2} - (-35\frac{9}{10}) - 2\frac{13}{20} + (-0,6) - 2,7 \\ = 18,75 + 27,5 + 35,9 - 36,2 - 2,65 - 0,6 - 2,7 = 82,15 - 42,15 = 40$$

Ergebnisse zum Algebrabuch: S. 23 Nr. 19

$$\text{a)} \quad (83 - 74) - (83 + 74) = 9 - 157 = -148 \quad \text{b)} \quad (83 + 74) - (83 - 74) = 157 - 9 = 148$$

$$\text{c)} \quad (-35) + 78 + [-(83 - 124)] = 43 - (-41) = 43 + 41 = 84 \quad \text{d)} \quad -(-87 + 234) + [-(-412 - 68)] = -147 + 480 = 333$$