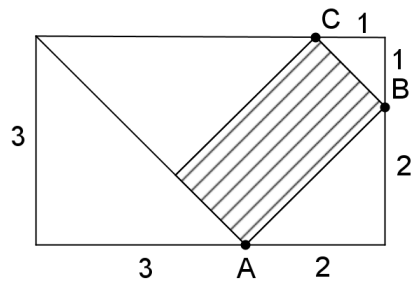
Nr.	**Lösungsvorschlag** **Feststellungsprüfung 2012 im Fach Mathematik**	BE
1.	$\frac{a^2+11ab}{a^2-b^2}+\frac{5a(a-b)}{a^2-b^2}+\frac{6b(a+b)}{a^2-b^2}=\frac{a^2+11ab+5a^2-5ab+6ab+6b^2}{a^2-b^2}=$ $\frac{6a^2+12ab+6b^2}{a^2-b^2}=\frac{6(a+b)^2}{a^2-b^2}=\frac{6(a+b)}{a-b}$	6
2.	$5(x^2+4x+4)-4(x^2-6x+9)=2x(x+15)+29;$ $5x^2+20x+20-4x^2+24x-36=2x^2+30x+29;$ $x^2+44x-16=2x^2+30x+29;$ **$x^2-14x+45=0$** $x=\frac{14\pm\sqrt{16}}{2}=\frac{14\pm4}{2}=7\pm2$; **$x_1=5 \vee x_2=9$**	7
3.1	$S(5\mid-4{,}5)$; $W=[-4{,}5;\infty[$	2
3.2	$g: y=mx$; $P\cap g: 0{,}5x^2-5x+8=mx$; $0{,}5x^2-(m+5)x+8=0$; $D=(m+5)^2-16=0$; $(m+5)^2=16$; $m+5=\pm4$; $m=-5\pm4$; $m_1=-1$; $m_2=-9$; **$g: y=-x$; $h: y=-9x$**	7
3.3	$P\cap g: 0{,}5x^2-4x+8=0$; $x^2-8x+16=0$; $(x-4)^2=0$; $x=4$; $g(4)=-4$; $B(4\mid-4)$	3
4.	 $\overline{BC}=\sqrt{1^2+1^2}\,cm=\sqrt{2}\,cm$ $\overline{AB}=\sqrt{2^2+2^2}\,cm=\sqrt{8}\,cm$ $A_R=\sqrt{2}\,cm\cdot\sqrt{8}\,cm=\sqrt{16}\,cm^2=4\,cm^2$	5
		30

Bewertung:

Punkte	30 – 26	25 – 22	21 – 17	16 – 13	12 – 7	6 – 0
Note	1	2	3	4	5	6