Did you hear about...

A	B	C	D	E	F	G	H
The	very	sad	guy	who	tried	to	kiss

I	J	K	L	M	N	O	P
his	girl	friend	in	the	fog	and	mist ?

Rationalize the denominator and simplify each expression below. Find your answer in the adjacent answer column and notice the word next to it. Write this word in the box containing the letter of that exercise. Keep working and you will hear about a mistake.

Answers A–H:

	Answer	Word
G	$\sqrt{11}$	TO
	$\dfrac{\sqrt{5}}{2}$	WAS
	$\dfrac{\sqrt{2}}{6}$	HUG
F	$\dfrac{2\sqrt{10}}{5}$	TRIED
C	$4\sqrt{5}$	SAD
A	$\dfrac{5\sqrt{3}}{3}$	THE
	$\dfrac{3\sqrt{5}}{10}$	BIG
E	$\dfrac{\sqrt{6}}{2}$	WHO
H	$\dfrac{\sqrt{3}}{2}$	KISS
B	$\dfrac{2\sqrt{7}}{7}$	VERY
D	$7\sqrt{2}$	GUY
	$\dfrac{2\sqrt{6}}{3}$	GIRL

Answers I–P:

	Answer	Word	
	$\dfrac{3\sqrt{2}}{4}$	BUT	
	$\dfrac{\sqrt{2}}{4}$	AND	O
	$\dfrac{\sqrt{21}}{3}$	IN	L
	$\dfrac{4\sqrt{5}}{5}$	GIRL	J
	$\dfrac{6\sqrt{2}}{5}$	LOST	
	$3\sqrt{3}$	FOG	N
	$\dfrac{3\sqrt{5}}{10}$	FRIEND	K
	$\dfrac{\sqrt{2}}{2}$	THE	M
	$5\sqrt{2}$	HIS	I
	$\dfrac{2\sqrt{2}}{5}$	A	
	$\dfrac{2\sqrt{5}}{5}$	MIST	P
	$\dfrac{9\sqrt{3}}{10}$	TODAY	

(A) $\dfrac{5 \times \sqrt{3}}{\sqrt{3} \times \sqrt{3}} = \dfrac{5\sqrt{3}}{3}$

(B) $\dfrac{2 \times \sqrt{7}}{\sqrt{7} \times \sqrt{7}} = \dfrac{2\sqrt{7}}{7}$

(C) $\dfrac{20 \times \sqrt{5}}{\sqrt{5} \times \sqrt{5}} = \dfrac{20\sqrt{5}}{5} = 4\sqrt{5}$

(D) $\dfrac{14 \times \sqrt{2}}{\sqrt{2} \times \sqrt{2}} = \dfrac{14\sqrt{2}}{2} = 7\sqrt{2}$

(E) $\dfrac{3 \times \sqrt{6}}{\sqrt{6} \times \sqrt{6}} = \dfrac{3\sqrt{6}}{6} = \dfrac{\sqrt{6}}{2}$

(F) $\dfrac{4 \times \sqrt{10}}{\sqrt{10} \times \sqrt{10}} = \dfrac{4\sqrt{10}}{10} = \dfrac{2\sqrt{10}}{5}$

(G) $\dfrac{11 \times \sqrt{11}}{\sqrt{11} \times \sqrt{11}} = \dfrac{11\sqrt{11}}{11} = \sqrt{11}$

(H) $\dfrac{3}{\sqrt{12}} = \dfrac{3 \times \sqrt{3}}{2\sqrt{3} \times \sqrt{3}} = \dfrac{3\sqrt{3}}{2 \cdot 3}$
$= \dfrac{\sqrt{3}}{2}$

(I) $\dfrac{30}{\sqrt{18}} = \dfrac{30}{3\sqrt{2}} = \dfrac{30\sqrt{2}}{3 \cdot 2} = 5\sqrt{2}$

(J) $\dfrac{8}{\sqrt{20}} = \dfrac{8}{2\sqrt{5}} = \dfrac{4}{\sqrt{5}} = \dfrac{4\sqrt{5}}{5}$

(K) $\dfrac{9}{2\sqrt{45}} = \dfrac{9}{6\sqrt{5}} = \dfrac{3}{2\sqrt{5}} = \dfrac{3\sqrt{5}}{10}$

(L) $\dfrac{\sqrt{7}}{\sqrt{3}} = \dfrac{\sqrt{21}}{3}$

(M) $\dfrac{\sqrt{5}}{\sqrt{10}} = \dfrac{\sqrt{1}}{\sqrt{2}} = \dfrac{\sqrt{2}}{2}$

(N) $\dfrac{3\sqrt{6}}{\sqrt{2}} = 3\sqrt{3}$

(O) $\dfrac{\sqrt{3}}{2\sqrt{6}} = \dfrac{\sqrt{1}}{2\sqrt{2}} = \dfrac{\sqrt{2}}{4}$

(P) $\dfrac{2\sqrt{3}}{\sqrt{15}} = \dfrac{2\sqrt{1}}{\sqrt{5}} = \dfrac{2\sqrt{5}}{5}$

OBJECTIVE 3–k: To simplify quotients containing radicals by rationalizing the denominator.

211