Name:
Result:

1. *(3 points)*

Put checks ✓ and crosses × in appropriate boxes to indicate if the given number is a natural number ($\mathbb{N}$), an integer ($\mathbb{Z}$), a rational number ($\mathbb{Q}$).

	$\mathbb{N}$	$\mathbb{Z}$	$\mathbb{Q}$
$\frac{-111000336}{3}$			
$\frac{\sqrt{16}}{3}$			
$(\sqrt{2})^3$			

2. *(1 point)*

Simplify $\sqrt{50}-2\sqrt{8}+3\sqrt{98}$ by writing the expression in the form $a\sqrt{2}$, where a is an integer to be found.

3. *(2 points)*

Rationalize denominators in the following fractions (simplify your answers, if possible):

(a) $\frac{10}{\sqrt{5}} =$

(b) $\frac{6}{\sqrt{7}-2} =$

4. *(2 points)*

Calculate:

(a) $gcd(126, 54) =$

(b) $lcm(42, 24) =$

5. *(2 points)*

Write as a single power of 2:

$$\frac{8^3 \cdot (\frac{1}{4})^4}{(2 \cdot 32^{-1})^5 \cdot 16^{-2}} =$$