rationals[11,40]

STM: test22

STM: mul_assoc

STM: mul_wf_nzero

STM: mul_nzero

STM: mul_add_distrib

ABS: sign(x) **sign**

STM: sign_wf

STM: sign-absval

STM: sign-squared

STM: gcd-reduce

ABS: gcd_reduce(p;q) **gcd_reduce**

STM: gcd_reduce_wf

STM: gcd_reduce_property

STM: coprime-equiv-unique

STM: coprime-equiv-unique-pair

ABS: isint(z;a;b) **isint def**

ABS: isint_pair{isint_pair_compseq_tag_def:ObjectId}
$\qquad$ (b; a; y; x)

$\quad$ **isint_pair_compseq_tag_def**

ABS: isatom2(z;a;b) **isatom2**

ABS: isatom2_pair{isatom2_pair_compseq_tag_def:ObjectId}
$\qquad$ (b; a; y; x)

$\quad$ **isatom2_pair_compseq_tag_def**

STM: isint-int

STM: tunion_wf

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ABS: $A \cup B$ **b-union**

STM: b-union_wf

ABS: qeq(r;s) **qeq**

STM: qeq_wf

STM: qeq-equiv

ABS: $\mathbb{Q}$ **rationals**

STM: rationals_wf

STM: int-rational

STM: int_inc_rationals

STM: qeq-wf

ABS: $r + s$ **qadd**

STM: qadd_wf

STM: qadd-add

ABS: $r * s$ **qmul**

STM: qmul_wf

STM: qmul-mul

STM: qminus-minus

ABS: $1/r$ **qinv**

STM: qinv_wf

ABS: qpositive(r) **qpositive**

STM: qpositive_wf

ABS: qrep(r) **qrep**

STM: qrep_wf

STM: qeq_wf2

STM: assert-qeq

STM: int-eq-in-rationals

ABS: (r/s) **qdiv**

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STM: qdiv_wf

ABS: r - s **qsub**

STM: qsub_wf

STM: q-elim

STM: qmul_ident

STM: qmul_com

STM: qmul_assoc

STM: qmul_inv

STM: qmul_inv_l

STM: qadd_ident

STM: qadd_com

STM: qadd_assoc

STM: qadd_minus

STM: q_distrib

STM: qmul_positive

STM: qadd_positive

STM: qminus_positive

STM: q_trichotomy

ABS: q_le(r;s) **q_le**

STM: q_le_wf

ABS: $< \mathbb{Q}+>$ **qadd_grp**

STM: qadd_grp_wf

STM: mon_assoc_q

STM: mon_ident_q

STM: qinverse_q

STM: qinv_thru_op_q

STM: qinv_inv_q

STM: qinv_id_q

STM: qinv_assoc_q

STM: qadd_inv_assoc_q

STM: qadd_comm_q

STM: qadd_ac_1_q

STM: qadd_grp_wf2

ABS: $r < s$ **qless**

ABS: $r \le s$ **qle**

STM: qle_iff_lt_or_eq_qorder

STM: qless_is_sp_of_leq_a_qorder

STM: qless_trans_qorder

STM: qless_irreflexivity_qorder

STM: qless_transitivity_2_qorder

STM: qless_transitivity_1_qorder

STM: qle_weakening_eq_qorder

STM: qle_weakening_lt_qorder

STM: qle_transitivity_qorder

STM: qle_antisymmetry_qorder

STM: qless_complement_qorder

STM: qle_complement_qorder

STM: qless_trichot_qorder

STM: grp_op_preserves_le_qorder

STM: grp_op_preserves_lt_qorder

STM: qless_irreflexivity

STM: qle_antisymmetry

ABS: $< \mathbb{Q}+* >$ **qrng**

STM: qrng_wf

STM: qmul_over_plus_qrng

STM: qmul_over_minus_qrng

STM: qmul_zero_qrng

STM: qmul_assoc_qrng

STM: qmul_one_qrng

STM: qmul_comm_qrng

STM: qmul_ac_1_qrng

STM: qdiv-self

STM: qmul-ident-div

STM: qmul-zero-div

STM: qmul-qdiv-cancel

STM: qmul-qdiv-cancel2

STM: qmul-qdiv-cancel3

STM: qmul-qdiv-cancel4

STM: qmul-preserves-eq

STM: test-q-norm-conv

ABS: $|r|$ **qabs**

STM: qabs_wf

STM: qpositive-qabs

STM: qabs-zero

STM: qabs-squared

STM: qminus-qsub

STM: qsub-zero

STM: qsub-sub

STM: qless_wf

STM: qless_transitivity

STM: qless-int

STM: qle_wf

STM: qle-int

ABS: $a \geq b$ **qge**

STM: qge_wf

ABS: $a > b$ **qgt**

STM: qgt_wf

STM: qle-iff

STM: assert-qpositive

STM: qmul-positive

STM: qminus-positive

STM: decidable__equal_rationals

STM: decidable__qle

STM: decidable__qless

ABS: q_less(a;b) **q_less**

STM: q_less_wf

STM: assert-q_less

STM: assert-q_less-eq

STM: assert-q_le

STM: assert-q_le-eq

STM: qmul-zero

STM: qmul-non-neg

STM: non-neg-qmul

STM: q-square-non-neg

STM: qadd_preserves_qless

STM: qadd_preserves_qle

STM: qadd_preserves_eq

STM: qmul_preserves_qless

STM: qmul_preserves_qle

STM: qadd_functionality_wrt_qle

STM: qadd_functionality_wrt_qless

STM: qadd_functionality_wrt_qless_2

STM: qle_functionality_wrt_implies

STM: qless_functionality_wrt_implies_1

STM: qmul_functionality_wrt_qle

STM: qmul-qdiv

STM: qless-minus

STM: qle-minus

STM: qinv-positive

STM: qinv-negative

STM: qinv-zero

STM: qdiv-qdiv

STM: q-ineq-test

STM: qadd-non-neg

ABS: qdist$(r;s)$ **qdist**

STM: qdist_wf

ABS: $a \leq b \leq c$ **qbetween**

STM: qbetween_wf

ABS: $a < b < c$ **q-between**

STM: q-between_wf

STM: qle-normalize

STM: qle_reflexivity

STM: qbetween-qdist

ABS: $\Sigma a \leq j < b.\ E(j)$ **qsum**

STM: qsum_wf

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ABS: $r \uparrow n$ **qexp**

STM: qexp_wf

STM: exp_zero_q

STM: exp_unroll_q

STM: sum_unroll_base_q

STM: sum_unroll_hi_q

STM: sum_unroll_unit_q

STM: sum_unroll_lo_q

STM: sum_shift_q

STM: sum_split_q

STM: sum_plus_q

STM: prod_sum_l_q

STM: prod_sum_r_q

STM: binomial_q

STM: sum_of_geometric_prog_q

STM: qsum-int

STM: qsum-qle

ABS: delta(i;j) **delta**

STM: delta_wf

STM: qsum-delta

STM: summand-qle-sum

STM: qexp-positive

STM: qexp-one

STM: qsum-const

STM: qsum-const2

STM: q-geometric-series

STM: qsum-reciprocal-squares

STM: qsum-reciprocal-squares-bound

STM: q-archimedean

STM: qsum-non-neg

STM: qsum-non-neg2

STM: qsum-subsequence-qle

STM: q-not-limit-zero-diverges

STM: q-not-limit-zero-diverges-2

STM: q-min-exists

STM: q-max-exists

ABS: q-linear$(k;i.X(i);y)$ **q-linear**

STM: q-linear_wf

STM: q-linear-base

STM: q-linear-unroll

STM: q-linear-sum

STM: q-linear-times

STM: q-linear-equal

ABS: q-rel$(r;x)$ **q-rel**

STM: q-rel_wf

STM: decidable__q-rel

ABS: q-rel-lub$(r_1;r_2)$ **q-rel-lub**

STM: q-rel-lub_wf

STM: q-constraint-times

STM: q-constraint-sum

STM: q-constraint-zero

STM: q-constraint-positive

STM: q-constraint-negative

ABS: q-constraints$(k;A;y)$ **q-constraints**

STM: q-constraints_wf

STM: product-map

STM: null-map

STM: average-qbetween

STM: average-q-between

STM: rational-has-value

ABS: $as[i]?a$ **select?**

STM: select?_wf

ABS: normalize-constraint$(k;p)$ **normalize-constraint**

STM: normalize-constraint_wf

STM: normalize-constraint-eq

ABS: normalize-constraints$(k;A)$ **normalize-constraints**

STM: normalize-constraints_wf

STM: normalize-constraints-eq

STM: decidable__q-constraints

STM: decidable__q-constraints_cv

STM: decidable__q-constraints-opt

ABS: qdot$(as;bs)$ **qdot**

STM: qdot_wf

ABS: q-sat-constraints$(k;A;y)$ **q-sat-constraints**

STM: q-sat-constraints_wf

STM: decidable__q-constraints2

STM: test23

ABS: test_case1() **test_case1**

STM: test_case1_wf

STM: int_nzero-rational